

THE  
SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

GEORGE H. LOCKE, *Editor*

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VOLUME XIII

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JANUARY—DECEMBER, 1905

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CHICAGO  
The University of Chicago Press  
1905



# THE SCHOOL REVIEW

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VOLUME XIII  
NUMBER 1

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## THE EIGHTEENTH EDUCATIONAL CONFERENCE OF THE ACADEMIES AND HIGH SCHOOLS IN RELATIONS WITH THE UNIVERSITY OF CHICAGO

NOTE.—The following papers were read at the Eighteenth Educational Conference, held Friday and Saturday, November 11 and 12, 1904, at the University of Chicago. The limit of space at our command necessitated a considerable condensation of these articles.

## REPORT OF THE COMMITTEE ON THE INFLUENCE OF FRATERNITIES IN SECONDARY SCHOOLS

SPENCER R. SMITH

Principal of the Wendell Phillips High School, Chicago

The committee appointed by President William R. Harper, of the University of Chicago, to report upon the influence of fraternities and sororities in secondary schools to the Conference of Academies and High Schools in Relations with the University of Chicago, has made such investigation, and herewith submits its report.

The committee has not arrogated to itself any right to speak arbitrarily or *ex cathedra* on this subject, and its report is not an expression of the personal opinion of the members (although four of the committee, being high-school principals, have contributed their opinion along with many others). The committee has aimed to collate the actual experience of the leading academies and high schools, to find out just what place these societies have in our secondary

schools, to note the advantages or disadvantages of such organizations as to scholarship and discipline, and to discover what should be the attitude of school authorities toward such organizations in the future.

It seemed to the committee only fair that those who belong to such organizations should be given a chance to state their "reason for being" from the pupil's point of view, and as it was wished that the statement should be just, it was decided to write to the fraternity boys and sorority girls to get their point of view.

The investigation has been conducted along three main lines: (1) the experience of the principals of the leading high schools and academies has been collected; (2) the fraternity view of the matter has been secured in so far as possible; (3) the advice of the presidents of our leading colleges and universities has been asked.

To secure the necessary data, letters were sent to fifty-one fraternity members, fifty-four educators, and five people having special information on the subject, besides the letters sent to high-school and academy principals.

The questionnaire<sup>1</sup> was sent to 464 secondary schools, 201 of

- <sup>1</sup> (1) Are there fraternities or sororities in your school? How many of each? (2) Are these fraternities or sororities local, or are they connected with national organizations? If not purely local, kindly give their names. (3) Are these fraternities or sororities under supervision of the faculty or recognized in any way by the school authorities? If under faculty supervision, what regulations are enforced? Do the fraternities or sororities admit faculty members? (4) Have these fraternities or sororities, to your knowledge, any standards (birth, wealth, worth, etc.), governing the admission of members and the character of their social life? (5) Do these fraternities or sororities occupy rooms in the school building? Do they maintain chapter-houses or rooms outside of the school? Or are the meetings held at the homes of the members from time to time, without fraternity or sorority rooms? (6) Do you have any information as to conduct in these rooms or houses? Is smoking, card-playing, or late hours indulged in? (7) Are the members of fraternities or sororities of low, average, or high scholarship? Where the scholarship is low or average, is it your opinion that it is caused by the fraternity or sorority life? Or are there other reasons for scholarship status? Can you cite any cases in your school where scholarship has been raised by the emulation of fraternity or sorority life? (8) Do these fraternities or sororities influence the social life of the school? Do they cause greater discrimination than ordinary friendships? Do they affect class organization or the organization of school dramatic, athletic, literary, and musical clubs? (9) Do you feel their influence in the discipline of the school? (10) Are the members of these fraternities or sororities pupils who are leaders in the social life of the school or the district in which the school is situated? (11) Is there apparent any feeling of distrust or jealousy on the part of those not invited to join these fraternities?



which did not answer. To these, second letters were sent. After replies had been received to the second request, it was found that there were 288 answers from principals outside of Chicago, and 18 replies from principals in Chicago, making a total of 306 replies. Of the schools reporting, 120 had fraternities, and it was from these that the principal data were gathered.

The question in regard to school and fraternity-sorority membership was fully answered by only 19 private schools and 71 public schools, and it is from their report that the following per cent. estimate has been made. In 19 private schools, having a total enrolment of 2,207 and a fraternity-sorority membership of 796, the ratio of those in the societies to the total enrolment was found to be 36.06. In 71 public schools having a total enrolment of 54,827 and a fraternity-sorority membership of 4,523, the ratio was found to be 8.25.

Of the high schools written to, about 170 had no fraternities or sororities in their schools, and, consequently, were not in a position to state present conditions. However, some of the principals had had a former experience on which to base very decided opinions. Some favored such organizations; the majority strongly opposed them. Almost without exception, the grounds of opposition of these men were the same as those of principals now having to deal with this problem. To avoid repetition, we will not give these reasons now, but will pass on to the opinions of those who have actual and present experience.

nities or sororities? (12) What is the attitude of the alumni members of the fraternities or sororities toward the active membership of the fraternity or sorority? (13) What is the attitude of parents toward the fraternities or sororities in your school? (14) Can you give the committee an idea of the expenses of the fraternities or sororities to the pupil for maintenance, banquets, dinners, dances, conventions, etc.? (15) What is the membership of your school? (Boys)——. (Girls)——. What is the aggregate membership of the fraternities or sororities? (Boys)——. Girls——. (16) What course would you advise: (a) The abolition of fraternities or sororities as organizations in secondary schools? (b) Their continuance under faculty supervision? (c) Or their continuance as outside organizations not under school jurisdiction? Are your objections the same for the sororities as for the fraternities? (17) If there is neither fraternity nor sorority in your school, are there club organizations of a social character without the secrecy of the fraternity? How are they managed? Are they under the supervision of the faculty? What are their tendencies? (18) Would you consider it advisable or desirable to establish in secondary schools an honor society similar to the Phi Beta Kappa? (Remarks.—Kindly add any information you may have, favorable or in objection, that may not be covered by the above questions.)

In making a statement of this phase of the life of the secondary school, it will be necessary to distinguish sharply between the private school and the public school. The fact that in the private school the children are often boarding away from home, and that they are fewer in number and more nearly of the same social condition than are the children in public schools, makes the conditions entirely different. The principals of the *smaller* private schools have made the point that their schools so closely resemble the home that any such organization is altogether unnecessary. There is no room for little families inside the larger family. The *larger* private schools have, and approve, the secret society. About one-half of the total enrolment are members of the secret societies, and no jealousy worth mentioning is shown by the other half. They are helpful in the social life of the school, and very often are an aid in the discipline.

The feeling of the private *military* schools is somewhat different. The military spirit in them produces a sort of democracy and contempt for social "functions" which makes the introduction of the "frat" almost impossible. They have made other arrangements for natural schoolboy rivalry.

In regard to establishing a society similar to the Phi Beta Kappa, opinion is divided. This idea is much more popular in private than in public schools, and yet there is fear expressed that too much emphasis be put upon marks and grades. A great many, however, have deferred expressing an opinion upon this subject, so that the data are altogether incomplete.

The public schools consulted have expressed almost every shade of opinion possible upon every question asked, so that there has been considerable difficulty in separating the chaff from the wheat, and any misquotation here is due to a misunderstanding of a fragmentary answer. Fraternities range from one to six in number. In many schools there is but one sorority. In the Girls' High School of San Francisco seven sororities were found. In schools where both fraternity and sorority thrive there is also great difference in the number. Many schools have but one of each. In the Central High School of Toledo, Ohio, nine fraternities and five sororities exist. As one principal has remarked, sororities and fraternities can be as numerous as the Greek alphabet, cleverly manipulated, will permit.

National and local societies are almost equal in number. In most of the schools heard from, faculty members have no supervision. In a few they have indirect control. In many they avoid supervision until interference is necessary. It is a rather noticeable fact that sororities are more anxious to take in women teachers than fraternities are to take in men teachers. In some schools the faculty has avoided supervision deliberately in order to show its feeling that the home is responsible for this activity of the pupils.

Most of the societies maintain that worth is one of the qualifications for admission. In about half of the schools the principals state that there are no standards apparent. Wealth, social standing, personal popularity, athletic prowess, good fellowship, companionship, school prominence, are all qualifications. In one or two schools good character and manly bearing, congeniality and academic standing, are recommendations for admission. In one case, a girl was kept out because she was "purse-proud." Being a Catholic or a Jew is also found in two instances to be a bar. One unusual case of "fraternity arrogance" is found in a school in Illinois where the principal states that "good scholarship was frequently a bar" to membership.

Wherever a fraternity has been able to afford it, a chapter-house or rooms have been rented. Principals approving of fraternities have given them a room or rooms in their schools for business meetings, but the social meetings are held in chapter-rooms or in the homes of the members. The sororities differ from the fraternities in this, that the meetings are held without exception in the homes of the girls.

The character of these meetings is widely varied. One sorority is reported as doing sewing, needlework, and cooking at its meetings. The conduct of the girls is reported to be perfectly proper. The boys have not such a good record, though there are some who "take pride in keeping the meetings respectable." Some principals report smoking, drinking, card-playing, and late hours, as being habitually indulged in, though a minority of the principals has no such experience. Again, the conduct is quite innocent, nothing more dangerous than "peanuts, sandwiches, and lemonade" being indulged in. However, dangerous conditions anywhere point to the possibility of

conditions becoming dangerous everywhere, and the numerous excesses should be seriously noted.

The scholarship ranges from very poor to above the average, but is generally fair. There are one or two instances of sorority connections raising scholarship, and a few fraternity boys have been braced up by their fellows; but, in general, the tendency has been to lower the scholarship by wasting time. Scholarship is simply forgotten and neglected, while the social side of the pupil's life is overemphasized. One principal states an improvement in oral recitations, due perhaps to a gain in self-confidence.

The societies influence the social life of the school wherever they are numerous enough to do so, and usually for the worse. They form cliques and crowds which try to run the school, unless sternly repressed by the faculty. The large majority of the principals do not now feel the influence of these societies in the discipline of the school, but there are a few cases where they try to "run things." Some of the older schools in Massachusetts and New York have found these societies an aid, and their co-operation has been very helpful.

In three out of five cases the pupils belonging are social leaders in the school. Sometimes they are prominent because of being upper-class men. In some cases, although they are not leaders, "they think they are"—a rather pertinent observation. The schools which have had the most trouble report their societies to be "made up mostly of those inclined to be loud, rude, and disrespectful."

The question of envy of those not in the societies is next. There is almost universally slight, often acute, jealousy. In the Commercial High School of Brooklyn only 35 out of 1,050 are in the fraternity. The rest are not jealous, because they do not know that there is any such secret organization in the school. This seems to the committee a very fortunate state of affairs.

The attitude of the alumni members toward the active membership is generally friendly, often advisory or paternal, and again cordial and co-operative. Sometimes going to college and becoming interested in college societies causes lack of interest in the old school societies.

The parents are usually indifferent, but sometimes friendly. The more serious ones disapprove. Many who disapprove in their hearts lack the courage to say no. As a Wisconsin principal remarks:

"Parents in general have no sense where children are concerned. Perhaps the children have not permitted the parents to have an opinion." In one school the fraternity demands the consent of the parent as a prerequisite to admission.

The committee has not been able accurately to estimate the expense. It runs from \$3.50 to \$50 a year, exclusive of the cost of carriages, etc. In some cases it is paid by the week or by the month; sometimes by the year. One fraternity has an initiation fee of \$10.

The proportion of the members of the fraternities and sororities to the total school enrolment varies widely. The average fraternity membership is thirty, whether the school contains one hundred or fifteen hundred pupils. The only difference is that in the larger schools there are more fraternities. The exact figures are given earlier in this report.

The course advised by the principals reporting is generally unqualified abolition, though many who would like this think it impossible, and vote for their continuance under faculty supervision. But, again, there are those who state that faculty supervision is opposed to the fundamental idea of fraternity life, and that *any* virtue these organizations now have in making the members self-reliant would be lost if they were put under the care of the faculty.

Their continuance as outside organizations not under school jurisdiction appeals to many who consider this fraternity question a problem for the home, and not for the school. Others think that, if ignored and kept outside, they will die from lack of interest, and be "frozen out." The point made is that there is no logical reason for their existence, and that, therefore, they should be excluded, where not already established, and got rid of, where they flourish, as soon and as painlessly as possible. Sororities are said to cause more friction than fraternities.

The club instincts of the pupil of secondary-school age have found expression in literary, debating, and athletic societies. Camera clubs and societies for the study of science, of music, and of art, are also popular. Societies of this sort are open, and lack secrecy, initiations, and class distinctions. Without exception, the results have been good, the tendencies of the best, the feeling of all friendly. These societies are open to none of the objections urged against secret societies.

The advisability of establishing in secondary schools an honor society similar to the Phi Beta Kappa is very generally discussed, but the votes have it three to one. Some think it may be good; some think that scholarship and honor both should be made a basis for admission; but the consensus of opinion is that it would be extremely difficult to keep the scholarship standard uniform. One principal says: "Let us do nothing that tends to create caste, even the caste of scholarship." It is thought generally that such a society is one of the things to be kept for college days, and to be avoided in secondary schools, as it tends to ape the college, and that the best interest of the school demands institutions peculiar to its own necessities and individual requirements.

Summing up the argument for and against the secondary-school secret society, it is found that there are some schools which thoroughly believe in and strongly favor the presence of the secret society in the school. Prominent among these are Lewis Institute, Chicago, and Colgate Academy, Hamilton, N. Y. But these two schools are closer in spirit to the college than is the average secondary school.

The arguments made in favor of fraternities are: (1) they can be made very useful to the individual student as well as to the school at large; (2) they aid school discipline; (3) they foster friendships; (4) they increase school spirit and loyalty.

The arguments against secondary-school fraternities and sororities were numerous and various, but those recognized by the committee are mainly these:

1. *Their influence is detrimental to the school.*—They have been found an evil and a curse. Their tendency is to break up all literary societies and divide the school into cliques, and bring into the school the worst kind of politics and morals.

2. *They are detrimental to the student himself.*—(a) Positively, in that they hurt his mind and character. The greatest injury has resulted to the members themselves. It causes a decline in school interest and in the preparation of school work. A spirit of indifference to consequences and an air of superiority seem to follow. Many never complete the course. In their fraternity rooms rumor has it that there is little evil that boys can indulge in that is not carried on. (b) Negatively, they are of injury to the student in that they keep

him from doing things that he might otherwise do if he were a loyal member of a united, single-spirited school. The elect owe all that they have of excellence in force, character, and manners to lift the level of the mass. The school as a social organization ought to be unified by the generous spirit of those able to give, not broken into suspicious cliques. They split the school on every project in which unity is desirable.

3. *They are unnecessary.*—They fill no real need, as the college fraternities do. The students are at home and are too young to choose any life outside of the home life, and supposed to fill some of its needs. They ape the college, with no other reason than to be "collegey."

4. *They are undemocratic.*—They cause much jealousy and heart-burning, especially among the girls. They are a source of grievance to many who are not "called."

5. *The standards they set up are different from*, if not opposed to, the standards ideally set up by the school authorities. "All are organized on a social basis; the faithful students that neither dance, smoke, or dress well are not wanted." They "are filled with sons and daughters of the wealthy to whom life seems only an idle dream."

6. *They are often an element of danger in the government* of the school, when they have grown old and strong, and are a source of much annoyance to the authorities.

7. The committee, finding the final argument against fraternities and sororities very well voiced by a gentlemen from Massachusetts, quotes him fully:

Any system that makes paramount the decisions of immature minds on questions of social and other school distinctions is, in my opinion, radically vicious. Any plan that tends to break up the solidarity of the school in the interest of imaginary class distinctions cannot be too sedulously avoided. Any scheme that weakens the influence of the master and his teachers, and exalts the power of pupils without regard to master or teachers, strikes at the very foundations of the American school.

The absolutely inane antics of initiation among these secret societies are enough to condemn them in the minds of intelligent people. To my certain knowledge, the usefulness of more than one headmaster has been destroyed in the community by friction arising from the prevalence of the secret-society evil.

Hence, when some years ago one of my pupils told me that he had been asked to form a chapter of a secret society in our school, and asked my opinion on the subject, I dissuaded him so strongly that he willingly abandoned the idea.



For a closing sentiment, let me suggest the following: No castes, no secret societies, no privileged classes in the schools; but the schools, and every feature of them, "of the people, for the people, and by the people."

As a part of the report relating to the influence of these organizations in secondary schools from the different view-points of the member of the fraternity or sorority, the parent, and some of the leading educators other than high-school or academy principals, is in the form of letters, it is not deemed practical to reproduce this part of the report here. This matter will be included in a later report of the committee.

At the close of this report, President Harper asked whether the committee had any recommendations to make. The chairman stated that the committee would like to present its report as a report of progress, and to be continued with a view to report further at the next session. It was accordingly moved that the committee be continued.

After further discussion of the question involved in the report, it was voted that, in view of the evidence submitted, in the opinion of those in attendance at this meeting, the presence of secret societies in schools of secondary grade is harmful to the best interests of these schools, and of the individuals concerned. It was then voted to defer the discussion of the third topic announced on the program, namely, co-operation of school with town for civic improvement, and that a committee be named by the chair to report upon that topic at the executive session of Deans and Principals for the Nineteenth Educational Conference.

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## OPEN SCHOOL ORGANIZATIONS

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PRINCIPAL PAUL G. W. KELLER  
Manitowoc, Wis.

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[ABBREVIATED]

The problem of school organizations is one that touches, in its first and last analysis, a fundamental principle in our civic life, of which the school itself, with its organizations, is an important part; at least the school is a great factor in the molding of those activities which later will be a part of the civic life.

It is not the purpose of this paper to point out the elements in secret organizations which are undemocratic, and so inconsistent with the ideal of an American school system, nor to discuss the legality of the control of such organizations by school authorities. I will



only touch upon the question of how open organizations can be made to take the place of secret organizations. If we could grant that secret organizations are the outgrowth of a desire on the part of the student body to supply a social want, or any other not supplied by the regular school activities, then, it seems to me, it would be comparatively easy to show how open activities can be made to supplant the secret organizations directly. The very fact, however, that such organizations are designated as secret, which really means that they are clannish and select, shows that their origin does not lie in a wholesome social motive. The cause of this undesirable motive is to be sought outside of the school, namely, in the home and social surroundings. Thus it is clear that open organizations could not be directly substituted for secret organizations, since the motives are diametrically opposed to each other. The only aid we can expect, then, of open organizations in solving this problem is to have the open activities so vigorous and so democratic and aggressive in spirit that the other organizations cannot flourish.

That there is a desire on the part of high-school students to do something outside of the regular classroom work, I am certain, and it is the duty of the school to supply this want in a measure. Where such opportunities are offered to students there is very little danger of there being social cliques, an excess of student parties with the attending unwholesome results, dancing parties, and other outside-of-school affairs in which students take part for want of something better to do. It is clear to me that we must reach outside of the school to get the grip on our boys and girls which we must have to get lasting results, not as to mind-training so much, but as to heart-training.

The natural way to begin is to take such interests as the students show, and develop them, thus building up activities which take up about all their leisure time. Of course, it is clear that such activities are not always under the direct supervision of a member of the faculty but when not, the students' interests and hearts are with the work, and whatever time the student may have at his disposal is taken up in preparation for the next meeting. As I look back upon the development of the work, I am certain that success depends upon the fact that this work must be the outgrowth of an interest on the part of

the students. To illustrate this, let me state how one or two of our most recent organizations came into being.

1. For two years past we have been doing systematic work in rhetoricals. Each student took part in this work, and the drilling was put into the hands of all the members of the faculty in turn. This year there was a vacancy in the department of English, and in securing the teacher to fill this place care was taken to secure a teacher capable of handling this work. Through the two years of practice, and the inspiration this teacher gave, twenty-five students became intensely interested in the work in expression and reading. They met and arranged to talk the matter over with us. The result is an Expressive Reading Club which meets once a week in the evening with the teacher of English. Their co-operative spirit showed itself at the first meeting: they wished to do something at once which they might present to the school for the Thanksgiving or Christmas programs, at which time friends and parents visit the school.

2. Our orchestra was organized in a similar way. It kept up practice during the summer vacation, and had several surprises in store for us when school opened, in the way of new selections. Through the orchestra in particular have we learned what the effect of these organizations is on the life outside of the school. In some cases it has changed the whole plan of the family circle during those times when all the members are gathered, especially in the evening. Concerning the music, where before there was half-hearted practice as a simple matter of course, there is now earnest devotion to the work, since there is a purpose in it all, and through all this the effort to keep these boys and girls at home is lessened. The boys' and girls' glee clubs sprang up in the same way, though not all at the same time. The girls had been enjoying their work for over a semester when the boys became interested. Now each organization meets once a week with the director, and they themselves spend evenings enjoying the preparation of selections for the next meeting.

3. Those students interested in business activities are associated with the management of the high-school paper. At present they are planning to lay aside the margin made each month to purchase a small printing outfit with which to do their own and most of the school's printing. This in turn will offer an opportunity for a prac-

tical kind of manual work for those boys interested in the work of the printer. The students who have charge of the literary and editorial departments are constantly on the lookout for ways and means of aiding any and all the other activities of the school.

4. The members of the Associated Press committee review the material on the reading-tables, and post pictures, clippings, and notes on interesting material on a bulletin board for this purpose. They keep the school posted through this and occasional talks on all the important topics of the day. Then they give valuable assistance to students preparing work for the literary society. The society meets every other week in the evening, and the work is under the guidance of two members of the faculty. The details of the work are carried on by regularly elected officers and members of the association.

5. The work of the athletic organizations is very much the same as in other schools.

6. The last two years the school has also conducted a course of lectures and entertainments, the management of which is largely in the hands of the students, under faculty supervision.

In mentioning these different lines of work I know I am enumerating activities which are more or less common to all progressive high schools. Our aim is to blend all these activities so that the spirit of co-operation and mutual helpfulness shall be the leading motive in all. Each organization does its own work with results characteristic of that organization; yet we try, wherever possible, to show the leaders at least that the work has failed of its higher mission if it does not contribute something to the life of the school as a unit. We aim to teach the lesson of co-operation in a practical way, in order that every student may carry away with him a practical ideal of civic co-operation, which will bear fruit in the professions or in business or in the shop. We want him to realize that even work done as well as it can be done is not an end in itself: it must be properly related to the circle of activities in which it is done. In other words, we aim to teach the lesson of unselfishness, and that co-operation pays.

We have had, and have still, social organizations of small groups of students. These are usually formed along the lines of genuine

common interest, such as the love of music, similar work at school, athletics, art, etc. If a student has the time, and cares to associate himself with any of them, he is perfectly free to do so. The ideal of one of these organizations is quite clearly set forth in a part of a letter written by a member of the "F. F." club, who is now in California, in answer to my question asking what benefits she derived from the club:

You may remember that I got "special mention" the first time I took the five-weeks' test. Well, the sophomore girls' club "F. F." (which means Friendship and Fun) saw it, and very shortly afterward I was asked to join the club, and I never can be glad enough. It seems a little thing, but I came in contact with bright, lively, and still industrious girls, who spent one evening a week (Friday or Saturday) in fun, which helped through the coming week of study and application to the work in hand. We used to have such good times, and they will always be part of my delightful memories of school life. I believe that every student ought to, if he can, do something of this kind; for if the brain alone is cultivated, at the expense of the body, it starts the owner into the world top-heavy. Associating with other students, brushing up against every variety of temperament and disposition, mingling in all the activities outside the class—these are the things that strike the happy balance and round out the man. Nothing is more delightful than these little informal societies, for it is here where we learn our first lessons in life and contact with others beside the home circle, when we are old enough to decide for ourselves what kind of friends we wish to have.

It must be confessed that the handling of this problem of outside or open school activities is not an easy task. However, it is worth all the time we give to it, and, I believe, we could well afford to lose a little on the side of intellectual training, if through that we can get a grip on the activities of the boys and girls outside of school, especially those which make for heart-training, an earnest wholesome civic pride, and the broad spirit of co-operation.

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The main topic considered by the General Session of the Conference, assembled in Mandel Hall on Saturday morning, November 11, was "The Extension of the High School to Include the First Two Years of College Work." This topic had likewise been before the Conference of November, 1902, and that of 1903. A résumé of the discussions at the session of 1903 was presented by Principal John C. Hanna, of Oak Park. These papers were printed in full in the issue of this magazine for January, 1903. Following Mr. Hanna, Superintendent J. Stanley Brown, of Joliet, read a paper on:

## PRESENT DEVELOPMENT OF SECONDARY SCHOOLS ACCORDING TO THE PROPOSED PLAN

SUPERINTENDENT J. STANLEY BROWN

Joliet, Ill.

[ABBREVIATED]

Philadelphia, Muskegon, Saginaw, St. Joseph, Mo., Goshen, Joliet, and eighteen semi-public institutions in different sections of this country, some illustrating one stage of development, and others showing another, are, each in its own way, working out this plan. The progress is necessarily slow, because all taking advanced work with a view to shortening the time spent in college are continually asking: "How much credit shall I receive for this when I enter college?" And the man to whom this question is directed is as regularly making the same inquiry from the college. The information he receives from the colleges is by no means uniform, but in no case has the right to such credit been questioned, when all the evidence bearing on the case was presented.

This phase of the general question is vital, because on its answer depends the decision of this particular class of students touching college entrance, when admission units have been satisfied, or continuance in high school for the purpose of securing additional units for advanced credit. If the certificate relation already exists, there ought to be no hesitation on the part of the college in accepting the work, provided the work offered is equal in quantity and quality to the corresponding work in the freshman and sophomore years of the college. Yet the question of determining how much credit ought to be given for work well done in the fifth and sixth years of the high-school course is, to say the least, a perplexing one.

The high school we find inclined to continue this advanced work very much in the same way as the third and fourth years' work were done; and so no satisfactory credit can be secured until the work done in the high school is equal in all respects to that done in the college. The colleges, in the main, contend that the difference in work is one of intensity, or that the high-school formula furnishes a diluted tablet of the commercial type, while the college furnishes a

concentrated tablet chemically pure. Much could be gained if we had a different method of school inspection. We have found that the inspector sent by the college generally inspects very rigidly along the line of his specialty, and makes a wise, sometimes a wide, guess at all other lines of work. A week spent in the school by the examiner or inspector would be far more beneficial and just to both parties than whatever time elapses between one train and the next. Nothing short of a personal acquaintance with the teacher can really reveal to anyone what her work stands for.

The Joliet High School has sought and received advanced credit at one college or another in mathematics, French, German, Latin, physics, chemistry, English and American literature, and history, but at no institution of the higher order have all these subjects been accredited. We have found it comparatively easy to reach an understanding in mathematics. Most colleges recognize that college algebra and trigonometry, well done with an approved text, admit the student, without examination or condition, to the sophomore class. A few add to these subjects analytics, and so we find it necessary to give this subject this year in the fifth year's work. It would be a great convenience, and would simplify matters greatly in the working out of our plan, if all work could be done with the same definiteness, uniformity, and accuracy as mathematics.

The development of schools indicates that some standard is necessary which shall show the amount of work which shall be regarded as satisfying the requirement of the freshman and sophomore years of the college, and, in order that this may be properly graded, all doing fifth- and sixth-year work should be required to select work from the fourth year and upward. In this way it is comparatively easy to increase the quantity and improve the quality until the students readily pass muster at the university. In all these discussions we feel greatly the need of having someone define the terms "high school," "college," and "university." So far as the high school is concerned, we scarcely know what it was, what it is, or what it hopes to be. Of late the college has changed little in the time allotment of work, and so with the university; and yet we find universities doing first-year Latin and elementary algebra, and high schools doing Livy and analytics. Now, if the state legislature, the state

department of public instruction, or the American commissioner of education would once for all define these three terms, they would free us from many inextricable educational jumbles in our use of terms.

No matter what development the high school may make, if it continues to graduate students after they have completed four years' work, the college will continue to receive quite a large percentage of them. Some will deem it advisable to change institutions, teachers, and location, after four years have been spent in one school, while others will prefer to remain at home under parental and magisterial supervision somewhat more direct and rigid than the average college authorities administer. A great determining factor in this choice is now, and must continue to be, a financial one. Those who can spend four years on a college campus will continue to do so, while those who can spend but two, and must secure a degree in that time, will remain—are remaining—at the high school to complete the extra work. As a matter of fact the number of students taking advantage of higher work in the high school grows larger every semester, and some are returning to school who graduated four years ago because the opportunity looks too tempting to pass by.

We find a great difference between the fourth-year and the fifth-year students in their attitude toward their work. After high-school graduation has taken place, and a decision is reached to return to the high school for advanced work, the more serious side of education seems to take possession of the student, and he is able to do well a much greater amount of work than he did the previous year. He begins to think more of the time element in acquiring an education, and is a student on his own account. What had before seemed a grind or mere drudgery now, under the new light shed upon it, appears to be an investment promising handsome returns. It is only fair to say that because the high-school is a democratic institution to a much greater extent than the college, the high school will retain for fifth- and sixth-year work many who could not be recommended to the college, and who would miss the great purpose of the college if sent to it. This comparatively small percentage of high-school students stand somewhat in the way of rapid advancement, and yet, so long as the institution is for all the people, provision must be made for them.



There is another class now appealed to in the development of this plan. Students are graduating from high school younger than they did a few years ago, considering the courses of study then and now; and the parents, even of those who see no other difficulty in the way of going at once to college, wish that the young college timber should be matured and seasoned for a year or two before trying to stand alone. There is no better place for them than in the high school in their home town, and many parents act wisely in sending such students back to the high school, and not to some college away from home.

In conclusion, then, we find (1) that in the development of the plan some schools have changed a three-year to a four-year course, others a four-year to a five-year course, and others a five-year to a six-year course, and that all that have had a six-year course are enthusiastic in the working of the plan and have no thought of retrogression; (2) that men who, as in this case, take the initiative and blaze the way to greater progress must expect to be maligned and condemned, but in due time the plan will convince even those who are now skeptics, that it has a real reason for existence, and that it is but the final step in the complete evolution of the secondary school; (3) that we recognize the fact that, under any plan, a certain percentage of high-school graduates will go directly to college, because a change in environment is advisable, and for those who remain to do advanced work the great question to be settled is the amount of credit the college can give for advanced high-school work, and that a clear distinction must be made both in quality and quantity of work between that of the fourth year and the two succeeding years; (4) that the certificate relation, good for the first four years, ought cautiously to be extended over the two succeeding years, and that the inspection ought to be more extensively done, and should not be simply an adjunct of any department; (5) that it would aid materially in the development of this plan to have some authorized definition of the terms "high school," "college," and "university," and to have some uniformity in granting advanced credit; (6) that the great factor in the decision whether to remain in high school for a fifth and sixth year's work, or to go at once to college, seems to be a financial one, and when decision is rendered to remain at home, a much more serious attitude toward school work is observed. The main difference between the one and the other work is one of intensity.



## THE SIX-YEAR HIGH-SCHOOL PLAN AT GOSHEN, IND.

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SUPERINTENDENT VICTOR W. B. HEDGEPEETH  
Goshen, Ind.

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[ABBREVIATED]

The six years' work offered by the Goshen High School is the result of a real demand, rather than an experiment based on any academic discussion as to the advisability of such an extension.

During the past few years a considerable number of the students have returned, in the year following graduation, to do work in the undergraduate courses. These pupils felt the need of a more extended course in school, but many of them were unable to meet the expense necessary to a course in college. Also a number of parents kept their children at home the year following graduation because they thought them too young to be sent away from home. During the year out of school the boys usually found work whose immediate rewards in dollars and cents seemed greater than the remoter rewards of learning; and the girls developed other ambitions. The plan of extending the course was projected to satisfy the cravings of the first class of boys and girls, and to correct the mistaken tendencies of the second.

Since the field for such a movement existed, locally, there remained but three additional things to do: (1) to provide a faculty whose work would be recognized by the colleges; (2) to provide suitable rooms and equipment; (3) to provide the ways and means financially.

In selecting the instructors we apply directly to the colleges for the material required. This enables us to enrol a faculty of the best grade from the best schools. In Goshen, only in rare cases do we have two from the same college. This year in a faculty of eleven we have represented nine colleges and universities.

In room and equipment we have provided the most modern and thoroughly furnished high school we know how to build; that is, for representing, the best we can, the educational ideas peculiar to the Goshen community.

The ways and means for meeting the extra expense incurred in the addition of two years' work to the curriculum, we obtain, partly,

by charging an individual tuition fee of \$30. With us this is large enough to avoid extra taxes. In other communities, of course, the fee will be more or less. As long as the institution of these extra courses does not operate to raise the tax levy, the most indifferent citizen cannot object, even though the law does not provide for the charging of fees in the public free schools.

Recently, in order that the so-called gap between the grades and the high school might be properly bridged, we have extended the departmental plan to include the seventh and eighth grades. I should say that this extension has done more than to bridge the gap; it appears to have closed it entirely. Now the seventh- and eighth-grade pupils have the same mechanical plan as the high school, the same system of administration, reports, etc. Also the departmental plan will enable the introduction, without loss, of algebra, Latin, and botany into the grades below the high school, if advisable.

This attempt at the co-ordinate development of the physical, mental, and manual lines has met with a hearty response from the pupils, as our high school enrolls about 350, as against 1,250 for the grades. Of this number in round numbers 100 are children of parents living without the corporation and who pay for school privileges. This fund enables us to provide the additional two years at the slight charge of \$30. Yet, if the fund were sufficient without this fee, we think it advisable to require it, as it is a good thing for the boy to learn that he must begin to pay for things.

Out of this high-school body of 300 or more, we have annually a graduating class of from 30 to 40. Thirty-five per cent. of these find their way to college. To be more exact, the total number graduating in 1901, 1902, 1903, was 105. Of these 37 went to college, and 12 returned to the high school to do further undergraduate work. A careful questioning of this year's class of 42 shows that 15 expect to go to college, and 20 expect to avail themselves of the advanced work offered by the high school. Of those who will do additional work in the high school at home, it is safe to say over half will find ways and means to finish the two years' work away from home. It is something to a boy to be able to see a way clear through, rather than to be looking blankly at the wall confronting him.

The high school is now offering the first year of advanced work,

and although the announcements were late, five boys and two girls of the class of 1904 have availed themselves of the opportunity.

The following letter was addressed to the leading citizens and patrons, requesting an opinion of the extension movement.

GOSHEN, IND., November 5, 1904.

DEAR SIR:—The University of Chicago desires expressions from the leading citizens in approval, or disapproval, of the Goshen six-year high-school plan.

The plan enables parents to keep their children at home an additional year or two at the saving of college expenses and at no loss of time, the colleges recognizing such work as equivalent to the corresponding work done in residence.

The charge of a tuition fee of \$30 per year from those pursuing the postgraduate work covers all additional expense without any increase whatever in taxation.

An early reply will oblige.

VICTOR W. B. HEDGEPEETH,

In view of the cordial reception of the proposed plan, both by citizens and pupils, the board of education voted to extend the course two full years; and, desiring to have this work accepted by the University of Chicago, informed President Harper of their plan in a communication of which the following is a copy:

*President W. R. Harper, University of Chicago.*

DEAR SIR:—We wish to assure you that the institution of the six-year high-school plan in Goshen is permanent, and has the entire support of the board of education, and the hearty approval and patronage of the citizens. We wish to state, further, that we will do all we can toward placing the last two years' work on such a plane as will entitle pupils to college recognition.

Very truly yours,

JOSEPH H. LESH,

FRANK KELLY,

GEORGE B. SLATE,

*Board of Education.*

The University was further requested to send to Goshen a special committee of inspection looking toward the acceptance of the graduate work by the University.

After a personal conference with the Dean of Affiliations and inspection of the school by him and two other officers of the University, the following conditions and courses arranged by Dean Miller and Miss Lillian E. Michael, principal, were agreed upon by the board of education and the superintendent as offering a requisite basis for the proper institution of the additional studies:

PROPOSED ARTICLES OF AGREEMENT BETWEEN THE UNIVERSITY OF CHICAGO  
AND THE GOSHEN HIGH SCHOOL IN ACCORDANCE WITH WHICH THE UNIVERSITY  
WILL ACCEPT THE WORK OF THE GOSHEN HIGH SCHOOL FOR ADVANCED  
STANDING

I. *Studies and Prerequisites.*

Three majors<sup>1</sup> of work in Latin based upon four full years of secondary-school Latin.

Three majors of work in mathematics based upon three full years of secondary-school mathematics.

Three majors of work in English based upon three full years of secondary-school English.

Two majors of work in modern and mediæval history based upon one full years' work in ancient history.

Three majors of work in German based upon two full years' work in elementary German.

Three majors of work in chemistry based upon one full year's work in secondary chemistry.

One major of work in physics based upon one full year in secondary physics.

These studies must be pursued strictly as postgraduate studies; that is, only by pupils who have gained the requisite units of credit for admission according to the University requirement. The courses offered must be equivalent in amount and character to the corresponding courses in the University.

2. *Number of studies.*—A student may not pursue more than three studies in any given quarter, except that the school requirement in public speaking may be taken in addition to these.

3. *Teachers.*

a) Each teacher giving instruction in collegiate work must be approved by that department of the University in which his work is to be credited.

b) His work in the undergraduate department should be so decreased that he may give ample attention to his collegiate work.

4. *Tests.*

a) The work shall be visited from time to time by representatives from the departments concerned at the expense of the Goshen High School.

b) At the end of each quarter's course a final examination shall be prepared by the teacher which shall be sent to the University for the approval of the proper department before it is set to the pupils.

c) Examination papers, when written, shall be sent to the University to be read and graded at the expense of the Goshen High School.

5. *Proposed program of two years' postgraduate study of the Goshen High School.*

First year, first quarter—Latin, mathematics, English; second quarter—German, mathematics, English; third quarter—Latin, mathematics, German.

<sup>1</sup> A major is a study pursued for twelve weeks, five days in the week.

Second year, first quarter—chemistry, English, German; second quarter—chemistry, Latin, mediæval history; third quarter—chemistry, physics, modern history.

Such a course, if properly based on undergraduate studies under the conditions prescribed, ought to enable the boy or girl to enter one of the Senior Colleges on a sound footing, or upon his years of real living, with fair chances of touching his environment in many understandable points.

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#### REPORT OF THE COMMISSION OF TWENTY-ONE

*To the Members of the Eighteenth Educational Conference of Academies and High Schools in Relations with the University of Chicago:*

The Commission of Twenty-one appointed two years ago to consider the propositions specified on p. 2 of the program, presented to the Seventeenth Educational Conference three independent reports, from the point of view of the elementary school, the high school, and the college respectively. By your action, taken one year ago, you referred these several reports to the commission as a whole, adding to the twenty-one persons already appointed the President of the University as chairman, and requested the commission to unify these several statements and to report to your body definite recommendations along the line of these propositions.

The report of the special committee representing the elementary school made one year ago advocated in substance a seven-year elementary-school course. The special committee representing the high school indicated in its report the work that should be done in a six-year high-school course in order to prepare students to enter the junior year of college. The report of the special committee representing the college made no direct recommendation.

It was understood by your commission that you expected a careful consideration of these reports, and, if possible, certain definite conclusions in the form of recommendations. But we desire to state that in the progress of our work we have found that the questions involved are of a most difficult and fundamental character, and that the data on the basis of which conclusions may be reached are few

and indefinite. It is the opinion of your commission that these questions are of a kind which may not be settled on *a priori* considerations; that in this field as in others the inductive method must be employed and many experiments undertaken; and, still further, that only after a considerable period of time will it be possible to reach results that may be regarded as well-tested and satisfactory. Your attention is invited to the fact that not a few experiments have already been initiated, some of which have been presented to you in the addresses of the morning.

Your commission find, as a result of their study of the subject connected with these propositions, that among other questions the following require to be investigated, namely:

1. Is the present policy of differentiation between the elementary and secondary schools desirable; or, should an effort be made toward greater unification in method and organization?

2. Should the elementary school correspond to the period of childhood, and therefore should it provide for six years of school work from the ages of six to twelve years, instead of eight years as at present?

3. Should the secondary school correspond to the period of youth, and should it therefore provide for six years of school work from the ages of thirteen to eighteen, instead of four years as at present?

4. What revision of the curricula of the elementary and secondary schools, and what changes in methods of teaching, can be made that will contribute to economy of time and efficiency of work?

5. In order to secure a well-balanced development and at the same time to contribute to the economy of time, can the school year be lengthened advantageously and minor vacations be more equally distributed?

6. Under what limitations should high schools undertake to do the work of the first two college years?

Your commission recommend that you appoint for the investigation of these questions during the coming year *a new commission of fifteen persons* representing the different interests concerned; and that this new commission be directed to report the results of their work in printed form to the individual members of this conference not later than June 1, with the understanding that these different answers

shall constitute the basis of the Saturday morning discussion of the Nineteenth Educational Conference of Academies and High Schools in Relations with the University of Chicago, to be held in November, 1905.

Respectfully submitted,

WILLIAM R. HARPER, *Chairman.*

GEORGE N. CARMAN,

J. STANLEY BROWN,

C. R. BARNES,

EMILY RICE,

GEORGE H. ROCKWOOD,

GEORGE E. VINCENT,

W. B. OWEN,

NATHANIEL BUTLER,

W. S. JACKMAN,

GEORGE H. LOCKE,

*Members of the Commission.*

After extended discussion this report was adopted. A motion was then carried that a committee of five be appointed by the chair, to which should be intrusted the appointment of the new commission of fifteen, and the arrangement of the program for the conference of 1905. The chair appointed the following committee: F. J. Miller, chairman; Spencer R. Smith, J. Stanley Brown, W. D. MacClintock, George H. Locke.

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## THE STUDY OF TREES IN WINTER<sup>1</sup>

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CLIFTON D. HOWE  
The University of Chicago

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There is no better index to the increasing popular interest in trees than the appearance of numerous books and aids to their identification. Since 1900 about twenty such books have appeared. While nearly all of them describe other characters more or less fully, the chief distinguishing characters in all but one of the books are the leaves. This restricts the study of trees to five months in the year. The opportunity for teachers is still more restricted, for when the leaves

<sup>1</sup> Read at the conference of the Departments of Botany and Zoölogy.

are in their best condition the schools are closed for the summer vacation. So in reality if teachers are dependent upon leaf characters for the identification of trees, their work in this line is limited to hardly more than two months in a year.

The identification of trees chiefly by their leaf characters has another disadvantage. It is apparent to some, at least, that such is not the best method. The distinctive characters of many, if not of most, trees are much more conspicuous when the leaves are gone. Some of the oaks, for example, are almost impossible of identification by their leaves; yet those same trees have such distinguishing characters that they may be distinguished at a distance when there are no leaves on the trees.

The distinguishing characters of a leafless tree, in order of their importance, may be given as follows:

1. *The character of the bark* (color; thick or thin; rough or smooth; grooved or ungrooved; peeling off longitudinally or transversely; in patches or in strips).—The white oak has a very light-colored bark which distinguishes it from all other oaks in this vicinity. Add to this character the fact that the bark often peels off in thin scales somewhat like those of the shag-bark hickory, and one may be still more sure of the white oak. The swamp white oak bark also has a tendency to scale, but the two trees can be told apart for two reasons: the bark of the swamp white oak is much darker colored than that of the white oak; and, in addition, while the scaling of the white oak is most conspicuous on the main stem and older branches, the scaling of the swamp white oak is more pronounced on the younger branches giving the top of the tree its characteristic shaggy appearance.

The bur oak, or the scrub oak, as it is sometimes called, has a thick, deeply grooved bark, and this grooving extends up into the tree even to the smaller branches. This gives the top of the tree a heavy, scraggly appearance. In the black oak, which often grows beside the bur oak, the grooving is not so pronounced. It does not extend into the upper branches, but, on the contrary, these remain quite smooth. These trees can be told apart as far as seen by this one character—a thing that cannot be done when they are covered with leaves.

2. *The character of the small branches* (alternate or opposite;



size; color; rough or smooth).—So far as the bark is concerned, the white ash and the basswood look much alike and are sometimes confused, especially when the trees are young or when they grow crowded in a forest. The branches of the basswood are alternately, while those of the ash are oppositely, arranged on the stem. This character readily distinguishes the two trees.

The bark of the ash and the box-elder look alike, and both have opposite branches, but there is a striking difference in the number and size of the branchlets. Those of the box-elder are abundant and small, while those of the ash are fewer and rather coarse. The result is that the ash has an open top, with comparatively few, conspicuous, rigid branches, the uppermost of which look like crosses outlined against the sky; while the box-elder has a comparatively thick top, with abundant small delicate branches, the outermost of which often turn upward.

The color of the branches aids in distinguishing certain oaks which otherwise resemble each other closely. For example, recalling what was said of the white oak and the swamp white oak, the branchlets of the white oak are gray-green, while those of the swamp white oak are yellow-green. Those of the white are mottled, and those of the swamp white are not. The black oak and red oak often grow together, and they are sometimes hard to distinguish in the absence of the fruit. A close inspection of the season's shoots, however, will show those of the red oak quite distinctly reddish in color, while those of the black oak are a uniform gray. It is often hard to tell the butternut and the black walnut apart. Their leaves are alike, and their bark is alike. The branchlets of the butternut, however, are covered with sticky hairs, while those of the black walnut are smooth.

3. *The character of the winter buds* (color; size; shape; position; scales).—The bud characters are often more pronounced than the leaf characters. This is true of the red maple and sugar maple. It sometimes takes close study to tell their leaves apart, whereas when the leaves are gone and the winter buds exposed, the problem of distinguishing the two trees is much simpler, for even in winter the buds of the red maple are much redder than those of the sugar maple. Moreover, the red maple buds are blunt and rounded at

their points, while the sugar maple buds have acute points. There is still another difference: the sugar maple bud is covered with a soft pubescence, while the red maple bud is smooth and polished.

We must confess that the leaf of the silver maple is its best distinguishing character. That characteristic deeply lobed leaf, with its conspicuously lighter colored under side, distinguishes it from all the other native maples. Unfortunately, in this case, the leaves are present only half of the year, so we must distinguish it in winter conditions from the red maple, which it most closely resembles. The buds of both are in groups at the ends of short branches, and they are both conspicuously red; but the groups in the red maple are larger, and the shoots on which they are borne are shorter, thicker, and more stubby in appearance. On the silver maple the little branches are more flexible and swing out into sprays. As they unfold in the spring, the bud scales of the silver maple have a row of little hairs on their margins—a character which is absent in the red maple.

It is sometimes difficult to tell the pignut hickory and the bitternut hickory apart. The leaves are very much alike, the bark is very much alike, but each tree has very characteristic winter buds. Those of the bitternut, especially the terminal, are long, narrow, and curved like a scythe, and their orange-yellow color distinguishes them from all other hickories. The buds of the bitternut are round and yellowish-brown, and they are smaller than those of all the other hickories.

4. *The character of the leaf-scar* (position; size; shape; imbedded or projected).—The leaf-scars are not so conspicuous as some of the other characters, but they are just as distinctive in many cases. For example, if all the characters which we have mentioned for the white ash and box-elder fail, we can tell them apart by their leaf-scars. Those of the box-elder are smaller, not so prominent, and are V-shaped, while those of the ash are large, projecting, and broadly triangular in outline. We found that the butternut was distinguished from the black walnut because of its sticky pubescent branchlets. We can now add to this character the difference in the leaf-scars. The leaf-scars of the butternut in outline are much like those of the ash, but they are larger and more conspicuous. They always can be told from the ash, of course, because they are arranged alternately on the stem, while on the ash they are opposite. The scar of the

black walnut is smaller, with a depression at the top in which the bud is placed. The butternut scar has a fringe of hairs just above it, while the black walnut is smooth in this place.

5. *The general habit of the tree.*—We are familiar with the graceful outlines of an elm, and we recognize it at a distance by its general appearance. Most other trees have habits just as characteristic, when we once learn to know them. A careful study from this point of view will yield very interesting results.

We teachers must first get the "tree feeling" ourselves, and then transfer that feeling to our students. A tree is the most successful form of plant life on the face of the earth, and we admire it for that. When we know it intimately, our admiration increases. When we realize the vast amount of work it performs in gathering in the elements from the air and soil, and in transforming them into great shafts of wood, we marvel at its power. The study of trees is not only a pleasure from an æsthetic standpoint, but it also is of importance from the educational and economic standpoints. And right here is where the teachers have a mission. The destruction of our forests and the depletion of the lumber supply are one of the most important internal economic problems that confront the country. The forests are not being destroyed because of avarice and greed, as we are often led to believe, but because of the ignorance of the life-habits and the requirements of the trees. If you teach your students to know the trees, their habits and conditions of growth, and really to appreciate them in all their aspects, you will be creating a public opinion that will not allow the destruction of the forests. This does not mean that the forests should not be cut. They should be cut; but they should be cut in such a way as not to destroy their productiveness.

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#### WINTER HABITS OF BIRDS<sup>1</sup>

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PROFESSOR LYND S. JONES  
Oberlin College, Oberlin, Ohio

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Of the nearly two hundred birds which may be seen during a year in a region like this about Chicago, scarcely more than fifty will remain during the winter proper. Of these fifty about twenty will

<sup>1</sup> Read at the conference of the Departments of Botany and Zoölogy.

be commonly seen in the places especially suited to them. Thus the study of birds in the winter season becomes greatly reduced in the number of species, and therefore more possible of definite results with each species.

The winter birds prepare for the cold by molting their whole plumage, in common with other birds, replacing the old worn feathers, which furnish covering enough for the summer, with complete feathers, and with an addition of down at the base of these feathers, and usually also, with more or less down in the normally unfeathered tracts. This new dress is more protective in color than the old, so that the birds are less readily seen by their enemies in the leafless landscape. They also become very fat as a further protection from the cold in furnishing both covering and fuel for the winter. Thus equipped, they have no fear of any degree of cold likely to be met in the regions where they choose to remain, provided the food-supply is sufficient. A few days of scanty rations, or none at all, will surely result in reduced power of resistance, or even death.

Winter birds, particularly, possess a strong instinct of mutual protection, except, of course, the birds of prey, which necessarily remain solitary, except when breeding, or sometimes when migrating. Flocking is common even among birds which never nest in communities. Flocks composed of horned larks and longspurs wander over the fields; flocks of snowflakes whirl about in front of a snowstorm; tree sparrows and juncos range the woods and adjoining fields; goldfinches wander everywhere; bob-white and the grouse feed and range in close flocks; and even the crows are likely to feed in companies.

Many birds which do not form flocks, properly speaking, do live in loose flocks of their own or several species, which might more properly be termed troops. This is particularly true of woods birds. Not infrequently the flocking woods birds will be found in these troops, the flock as a unit or scattered among the other species. The nuthatches, titmice, chickadees, and downy woodpecker, are almost invariably found together, and with them as a nucleus may often be associated hairy woodpeckers, red-bellied woodpeckers, flickers, blue jays, brown creepers, goldfinches, tree sparrows, song sparrows, juncos, cardinals, and rarely winter and Carolina wrens, making a

very respectable company. The interesting thing about these troops is that they are constantly wandering about in the woods, feeding all the time they are moving forward. Thus it may happen that one may go into the woods and fail to find any birds at all, if he happens to be outside of the range of the particular troop belonging to that piece of woods; but the birds may generally be started his way by imitating the winter call of the chickadee or tufted titmouse, and he may keep the troop about him for some time, if the imitation is continued; for in winter the birds are inquisitive creatures.

In speaking of the places where birds may be found in winter one must always qualify the statement with, "if food is obtainable." In a general way, it may be said that in severe weather birds will be found in protected places. They revel in a quiet snowstorm, but seek shelter on a clear but windy day. Hence, woods which offer the proper cover must either be thick enough to stop the wind, or else be provided with ravines and hollows of some depth. A gorge with one precipitous side and an opposite weed-grown flat would be ideal. In such places there may be troops composed of as many as fifteen species. I have already mentioned where the flocking birds and those grouping themselves into troops may be found. The hawks, owls, and shrikes, being flesh-eaters, and therefore of solitary habits, prefer deep woods or gorges, particularly in stormy weather. All are occasionally seen away from such places, of course. Blue jays, downy woodpeckers, chickadees, and nuthatches are found more or less in towns and parks, and are absent from the region immediately surrounding, but may be found in their usual numbers in the woods some distance away. Even the strictly field birds, like horned larks and longspurs, retire to the lee of woods in stormy weather. Crows will congregate where food is most abundant and most easily obtainable, which is often about slaughter-houses. If you would find the birds in winter, you must go where they live, for they are too busy making a living to come to you.

Certain of the birds will eat practically anything digestible, and some things that are not, and that is the reason why they are able to live the winter through. The true flesh-eaters, however, refuse any other food, and they are often forced to retire farther south to get it. Your winter-bird restaurant may be supplied with anything you may

have. The birds are thankful for any favors. If you fail to establish such a lunch counter, they will help themselves to your refuse barrel.

Few people seem to realize that any birds sing in winter. Tree sparrows are certain to sing, if it is stormy enough. From the way they play in the snow it is certain that they are not singing to keep their spirits up. They evidently feel the inspiration of battling with the storm. One other bird, the northern shrike, really sings. It is a question whether the so-called songs of the chickadee and tufted titmouse may not really be their flocking calls. However that may be, they answer very well for songs. Very rarely the cardinal may be coaxed to sing by an imitation of his challenge song. But during warm, spring-like days in late winter any of the winter birds may burst into song.

Closely allied to song is the play of birds; for they certainly play. The friendly chase is probably the most common form of play. Playing in the snow may be a form of bathing in the absence of water, but, if so, it takes on a form of play. What Thompson-Seton calls the chickadee's "crazy dance" is clearly play. I have seen it in late winter more often than in late autumn. The blue jay imitates the cries of hawks, while he is concealed, driving all birds in the neighborhood to cover, and then steps out on a clear branch and giggles. It is said that shrikes play with their victims when they have impaled them on thorns. I don't believe it. Even hawks have a form of aerial play during late winter. Superfluous energy coupled with favorable weather conditions might readily result in play.

One of the most interesting things about winter birds is the manner in which they pass the night. Most of the owls are nocturnal birds, and so are feeding during the night. They hide in thickets of branches or in hollows during the daylight, some of them in small companies. Hawks and shrikes find some woods cover among the thick branches well up above the ground. Birds that nest in cavities seem to prefer cavities to sleep in, but many times snuggle down in a favorable tree crotch, or they may even find a resting-place among the leaves which cling to shrubs or grape vines. I caught the first tufted titmouse I ever saw because he chose such a bed while I watched him. The woods-flocking birds seek rest in thickets more or less covered with

snow, in brush piles, in grass, or even in cavities in the rocks. I have found juncos and song sparrows, at twilight, snugly hidden in corn shocks, in hay stacks, and in barns, either burrowing in the hay or perched on timbers. Field birds pretty generally agree in sleeping under the grass when they can, under the snow when it is deep enough to furnish good cover. Every hunter is familiar with the little holes made in soft snowdrifts by prairie chickens that have gone to rest. Horned larks, snowflakes, longspurs, and even meadow larks do the same, only with less evidence, because they are smaller. One is fully repaid for his effort to tramp over the snow-covered fields in the early morning twilight by the sudden popping of a snow kernel at his feet into a startled sleepy bird, darting off a few rods, and again plunging head-foremost into the soft snow to finish his nap. Bob-white has solved the problem of the best rest coupled with the best protection. The leader first selects the bivouac, treading the ground over carefully to make sure of its suitability. He is soon joined by others who slide up, with their heads pointing the same way. Others rapidly join themselves to this nucleus, all tails touching in the center of the circle now formed. Three hungry or careless birds stand without the complete circle, but two of them manage to wriggle themselves into position. The last one tries here and there without success. But to be left out means probable death. He lightly jumps upon the backs of his mates, closely examines the whole circle, settles himself between two birds and wriggles to the ground safe.

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### THE SCHOOL CITY<sup>1</sup>

C. W. FRENCH

Hyde Park High School, Chicago

The school-city idea, as such, is probably an offshoot of the older idea of student participation in school government, which originated about the beginning of the sixteenth century in Germany, and which has found expression in various forms in the great endowed schools of England and the colleges of America, and in recent years in numbers of the lower schools of the United States and Canada.

<sup>1</sup> Read at the conference of the Departments of History and Political Science.

The school-city originated in New York city, although wholly independent experiments in this direction were inaugurated in other places at practically the same time. For a few years the forms of organization prescribed by the originators were widely copied, in general with but indifferent success, until the whole movement seemed to fall into disrepute and was dropped by one school after another until it became almost extinct. Within the last few months, it has seemed to be on the verge of a renaissance, whether because of its own inherent vitality and persistence, or of the renewed interest of some of its advocates, as illustrated by a recent series of articles in *Education* by Superintendent Tucker, of Sturgis, S. D.

It is my purpose, first, to give some reasons for this apparent decline and second, to inquire briefly into its original purposes and motives.

In the first place, it must be said that the movement has never passed beyond the experimental stage. Its most ardent advocates have never claimed that it has developed into a well-defined system or even that it has approached in any degree such definition and crystallization. The most that can be said for it is that the demand for some such movement in our modern education was clear, that its methods were in harmony with the latest developments of pedagogical thought, and that its partial results were such as apparently to justify its right to exist and to give a reasonable assurance that the experiment, if rightly conducted and patiently worked out, would eventually be in success.

To the careful observer its apparent failure is due to a number of causes external to itself, and not in any degree affecting its integrity.

From the beginning it has been unfortunate in its name; "pupil-government" and "self-government." Both indicate an abandonment of the teacher's authority and the substitution of a sort of government by the pupils which would limit the function of the teacher simply to the conduct of recitations under rules prescribed by the classes; and it has been difficult to disabuse the minds of probably a great majority of American teachers of this very erroneous conception. The name "school city" is not much better, for, while it is not absolutely misleading, it is, at its best, awkward and uncouth, and fails adequately to define the movement in the fulness of its purpose and scope.



It would be well if some genius could invent or discover a name which would be fairly definitive and still not carry with it unwarranted implications. The most satisfactory name I have seen is "student co-operation," and even this fails to meet the necessity.

Perhaps the most apparent cause of its partial failure is to be found in the haste with which it has been adopted without a proper conception of its meaning. Numerous teachers, caught by its novelty or impressed by the enthusiasm of its advocates, with but a vague idea of the course to be sailed or the point to be reached, embarked recklessly upon the new craft and suffered shipwreck upon the stormy seas or the rocky coasts, or, becoming daunted by the threats of storm, abandoned the ship and declared it unseaworthy. In hundreds of cases, many of which have come within my own notice, teachers and school officers eagerly adopted the idea without any serious study or investigation on their own part or preparation on the part of their pupils, and when failure came, as it was certain to come, they condemned the movement as impracticable and failed to see that they had not given it a fair trial.

In any departure, so radical as this, it is not safe to take the deductions of others, but each teacher must carefully study and investigate the question in all its bearings, and then seek to adapt it to his own school; and then only after he has laid the foundations with the utmost care, can he proceed to build the structure slowly, and with circumspection, feeling his way step by step. More than in any other way has this movement suffered from the ignorance and undue haste of its converts.

Another reason for its failure is found in the tendency to eliminate the authority of the teacher, either wholly or in part. If there is one danger, greater than others, which assails our public schools, it is the lack of recognition of authority on the part of the pupils. Obedience is more than a virtue; it is an absolute essential to the successful conduct of our schools; and if it is not insisted on, the fundamental purpose of the public-school system will be thwarted, and the doors thrown wide open to evil influences, which will wreck our splendid civilization, even as they wrecked Rome in the days of her greatest pride. Any system that tends to weaken the authority of the teacher should be instantly abandoned, and it will find no advocate among

thinking men and women. In the minds of its originators, this system implied no such abandonment of authority, but simply sought to transmute a forced or unreasoning obedience into an obedience which should be voluntary and rational. There was no thought of opening the door to license and anarchy, yet not a few teachers announced to their schools that they would abandon their authority and hand it over to the school, and it was hard to convince the public, which is generally right-minded when the welfare of the schools is concerned, that this movement, if adopted, would not overthrow all authority in the schools.

In some cases the movement tended to degenerate into a mere system of monitorial espionage. Any agency which sets one pupil to spy upon another, and then to report his misdeeds to the teacher, is wholly and deservedly obnoxious to the spirit of American citizenship. If this were nothing but a system of monitors, it would merit little but contempt at the hands of teachers and patrons; and when it was so interpreted, a grievous mistake was made, as I shall try presently to show.

The last cause of its apparent failure which I shall mention is the entire inability of most teachers to grasp the full extent and meaning of the movement. Most of those who adopted it believed it to be only a method of government, a device which would relieve the teacher of the troublesome problem of preserving order, and would in some magic way secure order automatically and discipline without effort. This was the most fatal misconception of all, and it is the one that persists today, even in the minds of many of its prominent advocates.

It seems that its wonderful possibilities have been largely obscured and that its breadth and scope have been belittled. For even the feeble and spasmodic efforts that have been exacted to shed light upon this problem have been sufficient to reveal it as one of the greatest in its possibilities and promises in recent educational history. This miscalled and misunderstood, often execrated, oftener ridiculed, movement, is not a ready-made device for governing a school. It is, instead, an educational process, a conception, which involves both the intellectual and ethical, and makes possible the realization of that philosophical doctrine, enunciated by Dr. Dewey: "Education is life."

Such, in very brief, are some of the causes of the greatly decreased interest now observable in the self-government idea. I desire now to inquire for a moment into the real meaning and the possibilities of the movement.

It is known to all that educational practice has undergone a great revolution during the past fifteen years. The course of study has been made both more extensive and more intensive. The textbook has largely given place to the library, the laboratory, and the workshop. Instead of being presented with knowledge predigested and diluted to meet the needs of the weakest mind, the student has been taught to hunt up the raw material for himself and to prepare it for his own use. A wider field of research has been thrown open to him and greater possibilities have been placed within his reach. Science, mathematics, history, literature, language, the concrete and the abstract, the practical and the theoretical, have all been presented more simply and rationally. Where once the boy and girl were taught to use their brains only, they are now also taught to use their hands, and many of the useful arts have made their way into the schoolroom, bringing a new vigor and life-connection into the educational system.

But with all this broadening out there is one department of education which has been overlooked. The intellectual and the physical have been given due attention, but the social, or what may in the last analysis be called the ethical, has been largely neglected.

In a democracy, more than in any other form of political organization the school is essential to the integrity of the government. An ignorant people is not capable of wise self-government. Schools must exist and perform their proper function, or freedom must give place to tyranny. Moreover, some departments of education are more vital to such a political system than others. It is more essential that an American citizen, as such, should know the theory and practice of democratic government than that he should know Latin and Greek. It is more important that he learn to direct his life according to the principles of right, justice, and purity, than that he win glorious (!) victories on the gridiron; that he should understand and be true to his obligations to his fellow-men, than that he should acquire proficiency as an artist or a craftsman. Is it not true that these

are the things which the country is today imperiously demanding of its schools, and not the others, important as they may be?

I have yet to see the course of study of any school which contains the slightest recognition of this supreme obligation. But, you say, this is so elusive a thing, it concerns itself so intimately with the emotional and moral natures, which cannot be molded specifically by courses of study, or trained by set instruction, that it is impossible to recognize it in the organization of the school or in the arrangement of the curriculum.

It is a familiar cry that morals cannot be taught from textbooks, and he would be a bold man and a heretic who would venture to deny it. But does it follow that morals cannot be taught specifically, and as such? Wood-working cannot be taught satisfactorily from books, but it can be taught specifically, definitely, and practically at the bench, and we are doing it daily in our schools.

You say we are teaching morals by our examples, that every lesson taught is a moral conquest, and that we do not need to do more. Is it not about time that we disabuse ourselves of this most dangerous delusion, and confess that we are failing, wofully failing, all along the line; that we are not teaching our pupils their duties to their government, their fellow-men, and their God? And when all is said, ought we not to have done this, even if we had to leave the other undone?

This is the ideal that the originators of the student-government movement, at least some of them, have set before themselves. They have not attained it. Too many of their efforts have resulted in abject failure, but I think they are not yet ready to give up; and in the end someone, somewhere, will solve the problem, and the American school will become rounded out and complete.

Perhaps it is necessary to present this idea, somewhat more in detail.

The school city, as I knew it, was never thought to be an end but only a means, and intrinsically a very unimportant means, toward the great end. What, then, did it seek to accomplish? Three things:

1. A fair working knowledge of practical politics: the political organizations of city, state, and nation; the duties of officers—execu-

tive, legislative, and judicial; the method of conducting political conventions, primaries, and elections. All of it concrete, practical, useful—a workshop, a laboratory of politics.

2. An appreciation of the obligations entailed upon the individual by the fact of his being a member of society; the negative aspect that he has no right to do anything, that will bring injury or unhappiness to his neighbor, and the positive, that it is his duty to do all he can to promote the common welfare, no matter at what cost of labor and self-sacrifice; that it is his duty to vote, to use his influence to secure public cleanliness, and correct sanitation, to see that the streets are paved, that intemperance, crime, and vice of all kinds are limited, discouraged, and, so far as possible, eliminated; in fact, to be a good citizen to the farthest limit of its meaning.

3. Personal righteousness: the acquisition of the ability to discriminate between right and wrong, and the purpose to choose the right; the formation of those habits which lead to personal integrity and upright thinking; and, in its final outcome, the enthronement of God in the heart and the firm determination to do his will.

Thus self-government becomes synonymous with divine government, and nothing less than this does it seek to realize. To this end the school-city has proved to be but a feeble instrumentality, and when a better is devised it will be gladly surrendered. That there is a better is sure; that it has not yet been found is equally sure. Meantime shall we not make the best possible use of that which has produced some results in this direction, while we are constantly and earnestly seeking a better?

Someone asks: "What has the school city accomplished?" My experience and observation convince me that it has accomplished at least these results:

1. A fair working knowledge of the political organization of a municipality, together with the more obvious duties and responsibilities of its chief officers; and I venture to say that this knowledge is more accurate and practical than any class has ever secured from mere textbook study alone. It is by observation and practice that this knowledge must be attained; and I think this may be recognized as the cause of the rapid and significant decline of the set teaching of civics in the public high school. In a recent report of the Bureau

of Education this decline is strikingly shown. In 1898, 22.74 per cent. of the total high-school enrolment was reported as studying civics. In 1899 the number fell to 21.97 per cent.; in 1900, to 21.66 per cent.; and in 1901, to 20.97 per cent. Within the past three years the decline has been more rapid. In 1901 in the high schools of the fifty largest cities 9,495 pupils (7.95 per cent.) were studying civics, while 20,000 were studying French. In the city of New York out of 8,000 pupils enrolled in the high schools 400 were studying civics; in St. Louis, 38 out of 2,500. Unquestionably the teaching of textbook civics is a failure, and even if it were not, it reaches but a small fraction of the enrolment, while by the laboratory method all the pupils in the school may be effectively taught.

2. A rectified and invigorated public sentiment. The right-minded majority takes the place of the evil-minded or mischievous minority as the controlling factor in school life. Much of the disorder and lawlessness that have vexed the hearts of teachers in the past have resulted from the willingness of this majority to be imposed upon. When they come to recognize clearly their rights, they will not so easily suffer themselves to be deprived of them. The mischievous boy soon finds himself without an audience, and in nine cases out of ten this removes the motive for his antics. It is possible that in this very fact may be found the true key to the solution of the difficult problem of government in the school, as it certainly does in the community. A vigorous and healthy public sentiment in school has been a hard thing to secure, but when it is once attained, it will make the burden of the teacher much easier to carry.

3. A more sympathetic and intimate relationship between teacher and pupil. The too common feeling that it is the duty of the teacher to suppress or repress the pupil, and of the pupil to outwit the teacher, cannot survive in this atmosphere, and the normal relations come spontaneously into existence. In my own experience, this was probably the most striking result attained, and I think that it alone would sufficiently justify the movement.

4. An increased sense of individual responsibility for the welfare of the school, a higher standard of student honor, an abatement of boisterousness, and an increase of courtesy and considerateness may all be anticipated, and to a greater or less extent have been secured.

I cannot help believing that such results as these would justify any movement, and I am sure that the many obstacles which now appear to beset its path will in some way be overcome, and that in time its full possibilities will be realized.

## THE CONFERENCE IN THE DEPARTMENT OF ENGLISH

NOTT W. FLINT  
The University of Chicago

The English Conference, to be of the greatest value to teachers of English, should discuss those questions which the greatest number of teachers are thinking about. According with this conviction the 1905 conference was planned. The English Department of the University sent out to various teachers one hundred letters, asking them to submit any question they thought the conference ought to discuss. The sixty answers to these letters brought in forty-five distinct questions. These were read at the conference this year, but space forbids their insertion here. They classify, however, as follows:

A. The English curriculum or course of study	- - - - -	22
B. Literature:		
1. History of literature	- - - - -	2
2. The teaching of general literature and of specific classics	- - - - -	5
3. American literature	- - - - -	2
C. Rhetoric:		
1. Formal matters (grammar, spelling, punctuation, etc.)	- - - - -	2
2. Composition	- - - - -	12

NOTE.—The twenty-two questions on the curriculum for the most part pointed in two directions: (1) What is the present value for secondary schools of the "required" classics? and, (2) What is the best way of arranging or distributing the work through the four years?

In view of these questions, the conference for this year decided that in 1905 it would choose, as the subjects for discussion, (1) "The English Curriculum," and (2) "Some Matters of Composition" (to be determined later). To bring the matter of the curriculum fairly before the conference, a volunteer committee of five was asked for. The five who offered for the committee are: Mr. G. W. Tanner, Northwest Division High School, Chicago; Miss Frances N. Symmes, Kenwood Institute, Chicago; Miss Ferrell, High School, Oak Park,

Ill.; Miss Julia Getteny, High School, Moline, Ill.; Miss Lilian Brownfield, High School, South Bend, Ind.

The committee is to investigate, so far as it may be able, the English curricula in the conference schools, and to report its findings. If possible, the report is to include answers to these questions:

1. What, if any, books or authors (outside the requirements) seem to persist in the course of study?
2. Does any special period seem to be favored by the books not on the required list; i. e., seventeenth century? contemporary?
3. Is there any general opinion among the teachers as to the present value of the required classics?

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### THE ENGLISH TEACHER AND THE SPELLING QUESTION<sup>1</sup>

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FRANCES SYMMES  
Kenwood Institute

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I am sure that the committee will make no objection if I take a little liberty with the program, and read the topics anew in an interrogative form: What can the English teacher do about the spelling question? What is the English teacher's duty toward outside reading? And the audience will permit me to interrogate them on the two problems that are nearest my heart as a teacher.

Personally, the connotation of those three words, "the spelling question," is most memorable. They are associated for me with more than mere classroom perplexities, and go back to the very beginning of my intellectual and spiritual experience. Again, through the eyes of a very little girl I see my mother by the lamp at the library table, and opposite her an irritated, boyish face bent over a soiled spelling-book. I hear the book slam down and a voice say: "Mother, I can't learn the old stuff! What's the use of having *cough* spell cough, and *tough* spell tough, and *through* spell through, and *dough* spell dough? I'll be plagued if I want to learn a crazy language like that! Why doesn't someone straighten it out?" And then I wait eagerly to hear what mother is going to

<sup>1</sup> Read at the conference of the Department of English.



say, for surely she is going to tell why the language is so crazy, and then straighten it all out. But when she only smiles, and then quickly grows serious again and says, "Come, dear, nobody could answer so big a question all at once. The language has been growing that way for centuries, and every queer word has a wonderful story about why it is so queer, and you will hear all the stories some day, if you are sensible and manly and get into college"—when mother gives that gentle, unanswering answer, I come in contact, for the first time, with a perplexity that is a problem.

And just as inexplicable is the problem today to me and to all other teachers. Indeed, so obstinately has this spelling difficulty defied us that it has assumed an almost tragic prominence in our modern education. Quite as firmly does it refuse to explain itself or to tell us the price that will buy it off, and so leave discouraged teachers more time and more inspiration for pleasanter work. Unanswerable as the problem appears, however, I am sure that if we look carefully at the conditions that have made it so serious a matter, we shall come somewhat nearer a happy solution. It is certainly but the inevitable result of the changes that have given us our present system of education. And since spelling is the only study that is seriously at fault today—the only part of education that has suffered in the upheavals of the last forty years—must it not bear a very nice relation to these same changes and upheavals? Since it has grown worse as everything else has grown better, is not its present condition significant of something not yet perfected in the matter and the method of our study? A perfect system sacrifices nothing. Since spelling is the victim under the existing system, does not its faultiness denote some inherent and vital weakness therein? Is it not the heel in our young Achilles?

Of course, there is much justice in the answer that could readily be made here, that a more reasonable and practicable manner of spelling should be adopted. This, of course, is unquestionably true: the language is unreasonable and arbitrary and extravagant. Our spelling is a tax upon reader and publisher. But since phonetic spelling is yet hardly more than a name, we must adapt ourselves to things as they are, and find other answers to the problem. The nearest approach to this answer will come by finding out how spelling has suffered from what we teach and from how we teach.

If we compare our school work of today with that of fifty years ago when it was considered wicked or even vulgar, to misspell, we shall find a wide difference. In old times the children learned the "three R's" from cover to cover, with all the fine print and all the exceptions. That, with some geography and some American history, constituted education, unless college preparation were required, when Latin early entered the curriculum and a little algebra came in later on. And these few lessons were studied and mastered as our children seldom study and master theirs today. Very different is our educational method today. Not long ago I had a significant conversation with a parent. I asked about the children's progress. "Oh, they are doing splendidly," she said. "They are thoroughly wide-awake and interested. They are taking electricity and physiography and manual training and drawing and cooking; they know the chemistry of everything they eat. I do wish they could spell, though. They can't write a page without ten or twelve misspelled words." This is what the parent said. I am not finding fault with the varied industries of the present system. Fifty years ago it was the "three R's." Now it is the whole round world—a lesson in far-off star, in wayside blossom, in wave-ridged fossil and fireside cricket. Moreover, besides the variety that so diffuses our pupils' force today, there is the amount of work that is required. A boy or girl entering college now often knows more than a college graduate fifty years ago. Consider what a student of sixteen or seventeen must be master of! He must have the three great Latin classics; the six or eight French classics; centuries of history, from the Flood down to today; algebra and geometry at his fingers' and tongue's ends; an intelligent understanding of one or more natural sciences; and, including collateral building, twenty to thirty English books. Compare this varied and extended course with the one-aimed method of fifty years ago. Something has had to suffer. Has it perhaps been spelling? In this reach after many things, it is not perhaps possible that the student loses his grasp of detail, his thoroughness and exactness? He works so fast and so scatters his energies that he loses his sensitiveness to form, his ability to receive impressions. Have you ever had a student who was surprised when, in an exposition of the paragraph, you showed her that every paragraph in her well-thumbed textbook was indented, and,

in a punctuation lesson, that every quotation in her favorite story-book was put between quotation marks? Have you ever found the pupil who couldn't tell you the name of the author of any English textbook she had ever studied? or—climax of discouragements!—did you ever have a pupil who took such pains with her examination that she misspelled the names clearly written out in the questions? I have had dozens. What is all this failure to see but a result of the diffusion, and hence weakening, of the intellectual force? The aim of the narrow, old-fashioned systems was to do a few things exactly, to impart a certain thing called knowledge. The aim of the modern system is to arouse and inspire, to impart a blessed, dangerous thing called *power*. And now the first query comes: Is power at its highest potency without exactness? And, secondly, is our modern course too varied and too crowded to admit of exactness? And, thirdly, is faulty spelling an evidence of the lack of exactness in the modern system?

And now as to the relation of faulty spelling to how we teach. A few years ago, in an article in the *Atlantic*, President Eliot said that the student of today expects to have his lessons served up to him on a tray, without any effort on his part. The student rings the bell and the teacher sends them up. This assertion justifies the question: Are we instructors not too anxious to make things easy and delightful and appetizing? If we recall the old times, when pinafores, pantaletted little ladies of twelve had to commit dozens of pages of Thomson's *Seasons* and Young's *Night Thoughts* and Cowper's *Task*, we are struck with the difference between those days and today, when a shadow falls upon the class if ten lines are suggested as worthy of memorizing. Of course, in most cases the hailing of "Gentle spring, ethereal mildness" in Thomson's flowing lines, and of "Night, able goddess on her ebony throne," in Young's iambics, was but a parrot-like exercise and a sad waste of time; but no matter how modern we are, we must all bow to the industry that made such mnemonic feats possible. The old way was different from the warmth and light and ease of today's methods; but we would that some of the old habit of work, the old concentration, the old fearlessness and defiance of obstacles were still with us. And in another way this industry and concentration were displayed by our grandparents. In

old times the student was thrown upon his own resources to force his way into a new principle, and then to force the principle into his grasp. In a way, such teaching seems barbarous and unenlightened—as well as unenlightening. And yet, was there not left, after the struggle to understand, a permanent treasure of strength that compensated for the darkness in which the mining had been begun? Of course, the ideal method is one in which the teacher is the illuminator, the inspirer, and the pupil the worker. It is the abuse of this method in making the teacher inspirer, illuminator, and worker, and the pupil the *listener*, that has done harm. Do we abuse the method today? When a theme is given out, we talk it over, we outline it, we suggest tricks of thought. When a new principle is introduced, we illuminate every corner of it, and then turn the class into it to have a good time. This is a pleasant way for both teacher and pupil, but is it unreservedly the better way? Doesn't it perhaps deprive the student of the habit of work, of the determined concentration of the old method? And is it this lack that makes our boys and girls indifferent and careless? Is it this indifference and carelessness that make them faulty spellers? They don't enjoy working over an unilluminated, uncorrelated page of spelling. Even after the teacher has told philological romances about the union of prefix and root and suffix, the words resolve themselves back into words—to be studied. The old method had thus for its aim the forming of habits of work from a plain sense of duty; and the result was unquestioning industry. The new method has for its aim—and a glorious aim it is!—the inciting of the pupil to work, the alluring of his fancy into an appetite for—what? Work or entertainment? And the query is: Is the intellectual appetite permanent and wholesome without this forceful concentration and his willingness to work? And the second query is: Does the modern system arouse this concentration and this industry? And the third is: Is the faulty spelling of today an evidence of this lack of concentration and industry? of this unwillingness to do what isn't easy and entertaining?

Before leaving this phase of the question, the relation of faulty spelling to our method of teaching, a word should be said upon the specific subject of the teaching of spelling. Many educators tell us that when the alphabet died, spelling fell ill. And there is, in the

words of our gentle classroom hero, Sir Roger, "much to be said upon both sides of the question." The old method made its appeal to two senses—to sight and hearing. A recent educational journal, advocating the *sound* method, proves its position by reminding its readers of how quickly the Sousa marches, played by blatant brass bands, took hold of the public memory. In pursuance of this idea, it advocates chanting the spelling lessons. Perhaps the idea contains a glimmer of truth, as most nonsense does. But though the eye is the chief dependence in English orthography, it is unquestionably true that the training of the ear would be of value directly in the spelling of a good many words, like *hopping* and *hoping* and *dining* and *dinning*; and of value indirectly, as an aid to concentration, in the spelling of all words, since two senses instead of one would be fixed upon the task. It is with this latter hope, and not in imitation of Sousa, that I exact, in my classes, the service of both eye and ear.

There is another modern condition which, it seems to me, has a very direct bearing upon our subject. I refer to the superabundance of reading matter. In the days when a man read only the Bible, Milton, *Pilgrim's Progress*, and perhaps the *Morte D'Arthur* and Bacon's *Essays*, those masterpieces were pored over and pondered and made a part of the reader's mind; the "matter of them was labored and distilled through all the needful uses of life." The result was a habit of thoughtful, receptive reading, the effect of which, in turn, was a vividness of mental impression and a wholesome activity of mind. Today our girls and boys skim through half a dozen meaningless romances a week. Nothing sinks in, nothing adheres, and the brain plays almost no part in the process; it is the emotions only that are aware of the passing of the story. The result of such reading is that habits of carelessness and of lack of application are formed, which, in their turn, render the brain indolent and unimpressionable. And now comes the query: Does not such a habit of mind develop a lack of grasp, a flaccidity of mental action? And, again, is not faulty spelling a necessary result of this lack of grasp and this flaccidity of mental action?

If even only a half-affirmative answer be given to the foregoing queries, but one conclusion can follow, and that is, that the faulty spelling of today is no accident, no caprice, but a condition that is a

result. From this conclusion there must follow a question, which, however, should be introduced by a repetition of the queries that have already suggested themselves.

1. Is exactness in detail—and certainly spelling is detail—a necessary sacrifice to power?

2. Are industrious habits of work—and certainly spelling requires industry—necessarily sacrificed to the cultivation of an appetite for knowledge?

3. Are concentration, thoroughness, and mental vigor—and certainly spelling requires concentration, thoroughness, and mental vigor—to be sacrificed to the superficial reading of the times?

4. And, lastly, how can we make what was precious in the imperfect old system—exactness, industry, and concentration—complete the perfection of the new?

And now, as to what the English teacher can do? In a general way, she must stand unflinchingly, unswervingly, and untiringly for exactness and concentration, and must fight against the tendency to slur and to shirk. Specifically I have found it best to introduce spelling-books into all the English classes, and I require a rigid and oft-repeated re-writing of all misspelled words—insisting gently but firmly upon its being a consequence and not a punishment. I have also found old-fashioned “spell downs” very serviceable as an occasional stimulus, and I am under constant obligations to our teachers in other departments for their faithful exactions of correct spelling. As for the teacher’s attitude toward the superficial reading, we cannot do half of what we would do toward bettering that condition; but we can do much to guide and support those who are floundering in the ocean of new books—and this leads up to my next topic.

The attitude of the English teacher toward outside reading depends entirely upon her attitude toward her class work. If she teaches only to put her classes through the college examinations, her duty is easy and clearly defined; she has to see that they prepare the required classics, with a certain amount of rhetoric and collateral reading—and there the responsibility ends. But to the teacher who sees a beyond to her work, the theme-work, the rhetoric exercises, and the required classics are but half of the responsibility. In the English department, in a degree greater than any other, there is a close

relation of life and work. It is with a sort of external consciousness that a pupil counts and calculates, that he dissects a frog, that he pursues a foreign idiom. It is with his most intimate consciousness that he enters into the spiritual, and intellectual life of a great writer in the mother-tongue. In the English room he draws in "the precious life-blood of a master-spirit, treasured up unto a life beyond life." And the teaching of English gives us instructors the nearest contact with the characters of our students. We seem almost to press and mold the ethereal substance of which spirits are made. This power of ours is twofold: it is objective to the pupils in the impressing upon their natures of the thought of the masters whom they studied; it is subjective to them—and hence more delicate—in the expressing of their own thoughts. By means of this power,

"We instruct mankind,  
To find man's veritable stature out,  
Erect, sublime, the measure of a man,  
And that's the measure of an angel, says the Apostle."

If we realize this quite peculiar and distinctive responsibility that rests upon us as teachers of English, we shall readily admit that we have a serious duty, not only toward school and college, but also toward anything that makes for character-building—toward life itself.

The outside reading of our boys and girls threatens both scholarship and character. A whole army of bloodless but fascinating heroes and heroines—ephemeral beings—is invading the domains of the everlasting flesh-and-blood creations of the masters. These new friends are merry comrades; they are not exacting; they entertain, and expect nothing from their entertainers except an occasional smile or tear. Moreover, they always have interesting love-stories, which they tell without any pauses for explanation or description or analysis, which the reader would like to skip. But, besides these book-people who are merely lifeless and trivial, there are the men and the women out of the problem-stories, with their sins and their sorrows. They are so beautiful and so sad and so poetic that their sins lose their unloveliness and become only unfortunate mistakes or tragic injustice. They are more exacting than the other literary guests, and require the young hosts and hostesses to

weep with them, and often to take their part against the cold-hearted criticism of prosaic older people. From these two broadly outlined classes of temptation come the classifications into which the reading problem falls—the mental danger and the moral danger. As Mr. Hudson says, in his work *On the Teaching of English*:

This world is getting full of devils—very potent ones, too—in the shape of foolish and bad books. And I am disposed to think the foolish devils in that shape even worse than the wicked, for they only begin the work of evil somewhat further off so as to come at it the more surely; and a slow, creeping infection is more dangerous than a frank assault.

These foolish devils make the mental danger. They swarm into our daily lives. There is the love-story veneered with history, the love-story diluted with a purpose, the love-story sky-rocketed with the improbable, the love-story veiled with the occult, the love-story bared into realism. Mr. Harrison, aptly, if somewhat broadly, says, that to ask a man who has been “sucking” magazines and love-stories to read a good book is like expecting a butcher boy to whistle “Adelaide.”

Such reading—harmless as it may sometimes be morally—has, mentally, two distinctly evil effects: it encourages indolent mental habits, as I have already said, and, further, it destroys the dawning critical sense. The young reader finds it much pleasanter to be entertained than to be aroused. A broad thread of love, strung with racy, often slangy, conversation, and an occasional adventure, is much more delightful than a plot that requires untangling from descriptions and analysis; or than the comparing of characters that do nothing seemingly but make involved iambic pentameter speeches. So the foolish devils are made friends with because they are easy companions; the angels and ministers of light are barred out because they seem hard to get acquainted with. The critical sense of the young readers is entirely centered in the love-story. If I may trifle with Dr. Holmes’s famous joke, unless there is an “I love you” to be said, a book is like a fire-cracker on the fifth of July. And the query is: What can we English teachers do to combat the mental danger? How can we make our pupils scorn the false and love the true?

The moral danger of indiscriminate reading has been so often the theme of preacher and teacher and parent that nothing further can



be said. But there is one phase of the subject of which it is well for us to remind ourselves. There is a serious moral danger often in a perfectly moral book. The constant appeal to the emotional nature of a young person cannot but have harmful results. This reading and rereading of love-stories arouses a morbid and unyouthful interest in sentimental subjects, breaks down the frank, wholesome comradeship between boys and girls, and builds up a tissue of foolish dreams which distort the serious realities of life. The emotional nature grows at the expense of the intellectual nature, instead of there being a balance of power.

Indeed, "souls are dangerous things to carry straight, through all the spilt saltpetre of the world." And the query is: How can we English teachers give moral balance to our students? How can we ward off or counteract, by our teaching, the moral harm that comes from trivial as well as from wicked books?

"Sublimest danger, over which none weeps,  
When any young, wayfaring soul goes forth  
Alone, unconscious of the perilous road,  
The day-sun dazzling in his limpid eyes,  
To thrust his own way, he an alien,  
Through the world of books."

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"DIE NEUEREN SPRACHEN"<sup>1</sup>

ZEITSCHRIFT FÜR DEN NEUSPRACHLICHEN UNTERRICHT. HERAUSGEGEBEN VON  
WILHELM VIÉTOR. MARBURG IN HESSEN: N. G. ELWERT'SCHE VERLAGS-  
BUCHHANDLUNG; NEW YORK: GUSTAV E. STECHERT, 9 E. SIXTEENTH STREET.

ASSISTANT PROFESSOR PAUL KERN  
The University of Chicago

*Die neueren Sprachen* (price, 12 marks) is a monthly journal devoted chiefly to the interests of the reform movement in modern language instruction. This year's numbers contain among other articles: proceedings of the national and international meetings of the various associations of teachers of modern languages; announcements and discussions of the annual vacation courses for foreign students in Germany, France, England, and other countries; international correspondence of pupils; preparation of teachers of modern languages at home and abroad; the German schools reviewed from the standpoint of the foreigner; English and French recitals and addresses by foreign professors established especially for the

<sup>1</sup> Read at the conference of the Germanic Department.

benefit of foreign-language classes in schools; reports on school dramatics in the foreign tongue; reviews of new modern-language schoolbooks; graded lists of English and French texts for the reading in the different classes; explanations of new English and French terms; pages devoted to the interpretation of difficult passages from foreign classics; scientific articles, especially on phonetics; etc.

In accordance with the chief object of *Die neueren Sprachen*, to be a mouth-piece for the newer tendencies in modern-language instruction, I will this afternoon present an abstract of an article by Professor Dr. Münch, written in answer to the following official inquiry by the Prussian government: "What progress has been made during the last decade of the nineteenth century in the teaching of modern languages in the German secondary schools and universities, and what further changes would seem desirable?"

#### I. THE DEVELOPMENT SINCE 1890

A. *Official actions of the state authorities.*—1. By official regulation affecting the school curricula and examinations of admission to the universities the modern language instruction in the secondary schools has been radically changed in the following points:

a) Frequent exercises in the practical, especially in the oral, use of the foreign languages have been introduced into all the schools. Practice in speaking the foreign tongue begins in the first year, must never be lost sight of in any class exercise, and is continued through all the stages of instruction.

b) All final examinations, except those of the *Gymnasia*, still require the foreign essay. The preparation for the same has, however, been made more rational: short written reproductions, modifications, abstracts, and amplifications of stories read or heard in class, even in the lower grades; writing letters and other exercises in independent expression in the foreign idiom. The *Oberrealschulen* treat technological subjects in the same way.

c) The reading, in which modern prose must predominate, is selected to include a portrayal of the manners, customs, and intellectual life of the foreign nation.

d) English is introduced as an optional subject into the three highest classes of the *Gymnasia*, while the instruction in French in all schools with a Latin curriculum has remained the same in amount, but begins in *Quarta* instead of in *Quinta*.

2. The above changes in the curricula have brought about an increased attendance in schools emphasizing the modern languages, which has led to an increase of such schools.

3. To give the teachers better opportunities to increase their speaking knowledge of their subject, annual vacation schools have been opened at Berlin, Frankfurt-on-the-Main, Bonn, Göttingen, Greifswald, and Marburg.

4. The modern-language instruction in the secondary schools is now almost entirely in the hands of specialists; a longer stay abroad is more and more considered a necessary prerequisite for securing positions.

5. To enable teachers to visit France or England, traveling scholarships (1,000 marks) and leaves of absence (six months) are given by the government.

6. The new regulations for teachers' examinations do not insist on historic knowledge solely, but also on acquaintance with the present literature and civilization of the foreign nation, and on the ability to speak and write.

B. *Activity within the teaching staff.*—1. The movement for reform of the modern-language instruction which started about 1880 received a powerful impetus by this official sanction of some of its claims. The bibliography of its rousing literature had by 1893 filled a whole volume: Hermann Breyman, *Die neusprachliche Reform-Literatur von 1876-1893*. (Leipzig: Georg Böhme, 1895) In spite of a natural reaction and a split in their own camp, the reformers have gained an ascendancy over the old, the grammar or translation method.

2. A wealth of valuable and most varied teaching material has been produced to help in the realization of the new ideals of instruction.

3. The results of phonetic investigations carried on in the laboratories of the universities are being utilized in the schoolrooms.

4. The same movement, on the other hand, compels the universities henceforth to provide not only for the scientific, but also for the practical, preparation of future language teachers.

5. The growth of the numerous modern language-associations is rapidly increasing all over the country. Their proceedings and publications bear testimony to the high intellectual life of our German colleagues.

6. It grows more and more common that even experienced teachers go abroad convinced that keeping in touch with the life of the foreign nation is essential to effective work. Among the pedagogues especially enthusiastic and successful in the application of the new ideas, Director Walter, of the Reformgymnasium in Frankfort-on-the-Main, perhaps deserves the first place.

C. *Some defects of the old system not yet abolished, and imperfections of the new.*

The former are due to the fact that the prescribed new curriculum is a compromise between the conservative grammar method and the radical wing of the reform party as represented by Professor Viëtor and *Die neueren Sprachen*. As most striking deficiencies may here be quoted:

1. The retention of the translation into the foreign language as a test in the final examinations, which is incompatible with the ideas of progressive teaching.

2. Opportunities which the university offers the student for perfecting himself in the spoken language and for entering into the modern life of the foreign nation, though improved, are still inadequate.

The newness of the reform movement is not alone responsible for the lack of perfection in the present method of teaching. It stands to reason that details could not yet have been fully and thoroughly worked out. A more serious danger arises from these two postulates of the reformers:

1. Impairing of a speaking ability. By inducing a teacher to neglect the

more important and substantial features of language work it may fail to give intellectual culture.

2. Familiarity with the foreign civilization. This field, so vast and complex, may easily lead either to superficiality or to too severe a strain upon the teacher.

## II. FURTHER CHANGES ADVOCATED BY PROFESSOR MÜNCH

The recommendations made refer chiefly to the work at the German universities, and so are of less interest to us here. The suggestion for the secondary schools are changes of administration, not of principle. For instance, he pleads for a reduction to eighteen or sixteen in the number of weekly lessons to be given by a teacher of modern languages. Some of his proposals have been accepted in the newest regulations of the Prussian government, the study of which I recommend to the teachers of German in this country. They are: *Lehrpläne und Lehraufgaben für die höheren Schulen in Preussen*, *Ordnung der Reifeprüfung an den neunstufigen höheren Schulen in Preussen*, and *Prüfungs-Ordnung für die Kandidaten des höheren Lehramts in Preussen*—all published in Halle, 1901 (Buchhandlung des Waisenhauses).

## ZEITSCHRIFT DES ALLGEMEINEN DEUTSCHEN SPRACHVEREINS

AMANDA GIMBEL

William McKinley High School

The journal entitled *Zeitschrift des Allgemeinen Deutschen Sprachvereins* is the organ of a society of the same name whose aims are the cultivation of the German language, its purification from foreign words, and the awakening of a broader national spirit.

Luther had given to the world his glorious achievement, the translation of the Bible, in pure, forcible German, intelligible to High and Low; but the standard set by him had not been maintained. Language suffered by too generous importation of words from other countries. Centuries have passed, but the tendency of the Germans for mixing up their mother-tongue with foreign expressions has not abated.

Since the national regeneration which the foundation of the empire brought about, there is a natural reaction against this excessive admiration for all things foreign, a revival of public spirit, a healthful agitation to lift upward, to drive onward. A great number of foreign words of an earlier introduction which have taken root in the German language have undergone a transforming process and are so closely interwoven with it that their retention is a necessity. These incorporated words—in German *Lehnwörter*—must be retained while the modern foreign words of later date are superfluous and must be abolished.

How is the improved German to become the common property of the people? Everything in language depends on analogy and habit. The formation of habit

is a slow process; once formed, it exerts a restraining and guiding influence. This formation of a new habit depends on the will-power of the individual and of the nation. Prominent members of the society are constantly exerting their influence for gaining the co-operation of all branches of commerce and industry. Trade unions, public institutions, professions, and political parties are urged to adopt the approved German terms in their meetings and conventions. The army, navy, universities, the stage, the church, hotels, etc., are gradually replacing their mixed vocabulary by a new terminology. In order to extend the vocabulary, the journal offers prizes for the best substitutes of the rejected words. These must be simple, clear, and euphonious to be approved of by the society.

Mothers should try to instil the habit of correct speech when children are yet in the nursery. The schools should give a national education by devoting more time to the mother-tongue. Teachers and pupils should gain a deeper insight into the Teutonic character and speech by the study of Middle High German and by reading works of the sixteenth and seventeenth centuries. There is a fine collection of these almost forgotten writers, entitled *Neudrucke deutscher Literaturwerke des 16 ten und 17 ten Jahrhunderts*, by Dr. W. Braune, of Heidelberg.

The fatherland makes an appeal to all of her children who have settled on other shores, to remember their heritage, to spread German customs, German culture, and German language in their adopted homes. The German pioneers of the United States and their descendants have always been the foremost in responding to such appeals, and the paper pays the following tribute to the United States: "In America the ideas of Pestalozzi and Froebel are being carried out in the public schools; the kindergarten, physical culture, drawing, and singing are an outcome of these. Passing by a school building we may hear the familiar melodies of our popular songs. The school children are well acquainted with Grimm's *Märchen*, many of them being able to read them in the original. In the secondary schools, Miss Mary Burt's translation of the *Nibelungen Lied* is studied with much interest. The German legends are getting popular by the beautiful interpretations of Richard Wagner's operas."

In another column of the paper, we find a highly interesting review, by Professor Kern, of New York, of two remarkable books, the one, entitled *Das Deutschtum in America*, by Dr. Julius Goebel; the other entitled *Zwei Jahrhunderte deutschen Unterrichts in den Vereinigten Staaten*, by L. Viereck.

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#### "EUPHORION," ZEITSCHRIFT FÜR LITERATURGESCHICHTE

LYDIA M. SCHMIDT

University High School

The magazine *Euphorien* is edited by August Sauer, Leipzig and Vienna, and has appeared quarterly since the year 1894. As we read in the preface of Vol. I, the magazine is dedicated to the furtherance of the study of the history of

German literature after the closing Middle Ages. That of the older periods of Germany and the literature of other countries are, however, not to be entirely disregarded.

*Euphorion* aims to consider literature in relation to the entire national development to politics, and culture history, theology and philosophy, music and the plastic arts. Aesthetic, philosophical, linguistic, stylistic, and metrical investigations are to appear in its pages, and through the discussion of method it is hoped research may be carried on with greater accuracy and clearness.

The development of German literature up to the present time is to be discussed. But the classical period of Germany as the foundation of German culture is to receive the most attention and the study of this literature, the striving to comprehend these great minds and their works, is to be the primary purpose of the magazine.

With slight deviations, this course has been followed. Perhaps the treatment of modern literature in proportion to that of the classical period has received somewhat more attention, especially during the last year, than was to be expected from the program outlined here. The articles, though on a scientific basis, are popular in the best sense of the word, and are of interest to the general reading public as well as to the scholar.

Reviews of important new books, written by specialists, constitute one of the prominent features of the magazine. Short reports of books and essays not easily obtained in Germany, as North American, Slavic, Hungarian, and Italian works, are also published.

The magazine is accordingly divided into four parts: (1) essays of a general character; (2) miscellaneous articles, consisting of researches, sources, and new communications, such as letters, diaries, and texts; (3) reviews and reports; (4) a bibliography of magazines and books.

Two book reviews—Paul Heyse's *Jugenderinnerungen und Bekenntnisse* third edition, 1900, reviewed by Harry Mayne, and Lothar Rudolf's book entitled *Henrik Ibsen* (1902), reviewed by Richard Meyer—and the article "Sappho-Probleme," by O. E. Lessing, may be considered representative of the magazine.

Harry Mayne's review is a bit of very interesting reading matter written in that story-telling vein which is said to be characteristic of the book itself; and that of Richard Meyer is an example of the more searching, scholarly reviews in which the magazine abounds.

The article by Lessing is a critical essay of considerable interest. He begins his article by quoting contradictory statements of Grillparzer concerning *Sappho*, and then shows that these remarks correspond to inconsistencies in the drama. He analyzes the drama, points out the incongruities, and maintains that they are caused by a change of plan on the part of the author. Grillparzer, he says, began to write a *Künstlerdrama*, but sickness interrupted him, and when he took up the work again he found himself in a different mood and did not carry his first plan out to its logical conclusion. The *Künstlerdrama* became a love-drama. The new plan, however, was not organically carried out, since the original plan appeared

again toward the close. The catastrophe is not motivated, and the drama is not an organic whole.

Space will not permit a detailed account of Lessing's criticism, but in the main it is as follows: Lessing says that in the *Künstlerdrama* everything must be founded on psychologic necessity. If Grillparzer wanted to portray the conflict between art and life, he should have made Sappho herself responsible for the separation from Phaon. There is no place for accident or whim in a drama of this kind. Grillparzer, says Lessing, has not conceived his problem deeply enough. He gives Sappho no opportunity to measure herself with the real forces of life. What might have been her fate, he asks, if she had been placed among people who were her equals, who admired, loved, and understood her? Here Lessing with great acumen detects the real defect in the drama, and the utter inability of Phaon and Melitta to pose as Sappho's antagonists. Lessing maintains that Grillparzer has not given dramatic expression to the conflict between life and art in *Sappho*, and that when this conflict is treated at all it is only in lyrical form.

The essay is of interest because it affords us a glimpse into the workmanship of the author, and also because it is typical of the articles favored by *Euphorion*—those in which trained scientific and literary criticism is brought to bear on the subject in hand.

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#### NEUPHILOLOGISCHES CENTRALBLATT

THERESA DILLON

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It is my task briefly to review the contents of *Neuphilologisches Centralblatt, Organ der Vereine für neuere Sprachen in Deutschland*. The journal is published in Hannover by Dr. W. Kasten. The aim of these societies is "to bring forward for general discussion among their members such educational problems as are best suited to keep teachers in close touch with the improved methods of language-teaching."

Before noticing any particular article, I should like to direct your attention to the many-sidedness of this journal. In the field of literature one finds exhaustive reviews of the more important new publications, together with critical studies of the works of old masters, evincing profound scholarship. Teachers in secondary schools will be attracted to the articles on methods which appear frequently in these columns. These articles are written by men engaged in actual teaching, who examine carefully new methods commending only those which are pedagogically sound. Several pages are devoted to the announcement of new works in the whole field of modern-language teaching. Short but thorough reviews are given of the most important books. The teacher who wishes to spend his vacation in professional study will find in this journal the announcement of the various vacation and extension schools (*Fortbildungsschulen*), and a short but comprehensive plan of the courses they offer.

Among the articles published in this magazine during the current school year those which discuss thoroughly the reform method of language-teaching arouse the deepest interest. I therefore thought best to direct your attention more particularly to the lecture of Professor Eidam, "Zum neusprachlichen Unterricht an deutschen Mittelschulen," printed in the March number. In a very fair and unbiased manner he discusses the advantages and disadvantages of the reform method. Professor Eidam warns us not to degrade the subject of language-teaching to the low plane of utilitarianism. Modern languages are not to be taught for mere practical reasons and in a mere practical manner. Our schools are not to be technical, but educational institutions. Their aim should be to provide the pupils with general culture. This can be done only by introducing the student to the works and thoughts of the great writers of the language. Hence, the study of literature is of prime importance in language-teaching. This does not imply that the practical side must be neglected. It should be considered as far as is necessary and practicable. But it should not come first; it should be simply a means to an end. Therefore Professor Eidam condemns the position of the extreme reformers who would entirely exclude the mother-tongue. The foreign language is to be the means of expression. It is to be used as much as possible within the comprehension of the average pupil. But a too slavish adherence to the new language will seriously interfere with the cultural aim. A transition to the mother-tongue will often be desirable. Professor Eidam therefore demands that new words should be explained by means of the mother-tongue. Even concrete ideas are to be thus presented; for if the foreign language is used, the explanations are usually very long and involved, and often lead to confusion. Professor Eidam also recommends the study of grammar for the reason that students will not be able to read understandingly without some grammatical knowledge. This is to be acquired by the inductive method. To sum up Professor Eidam's ideas of the purposes of modern-language teaching: The primary aim is to teach reading for thought; oral reading with special emphasis on good pronunciation is recommended; besides, ear-training and the beginnings of writing and speaking.

To conclude, I wish to direct your attention to an extract from an article of Director Walter, "Über den Gebrauch der Fremdsprache bei der Lektüre in den Oberklassen." A short, but comprehensive view of the method employed in Director Walter's famous model school in Frankfort is here presented. In this school the foreign language is used from the very beginning, not in connection with reading, but for exercises in ear-training. The teacher tells or reads a story very dramatically, and the pupil reproduces it at once, first orally—then by means of writing. Reading, too, is practiced, especially in the upper grades. The sentence method is used in teaching new words. The native tongue is relied upon only when abstract ideas are presented, or when difficult passages are read. Speaking the foreign language is to be the *means* for a more thorough study of the language, but not the *end*. The experienced teacher will easily recognize that



Director Walter's method is practicable only in schools where the teacher has a limited number of small classes.

*Neuphilologisches Centralblatt* furnishes many articles equal in interest and importance to those I have mentioned. The progressive teacher will be amply repaid for devoting some time to the careful reading of this journal.

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## RADICAL AND CONSERVATIVE ELEMENTS IN THE TEACHING OF MATHEMATICS<sup>1</sup>

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MABEL SYKES  
South Chicago High School

Valuable as is the mental training possible when mathematics is wisely taught, we question its right to a place on the curriculum if the subject-matter has no value in itself. We do not wish to put this on a mere commercial basis, but on the basis of a larger and a fuller life—that is, a greater efficiency, not for selfish ends, but for the advancement of whatever is most worth while. It is possible that the mental training obtained in mathematics is more rigorous, but not essentially different from that obtained in other subjects, so that if the pupil has no real use for mathematics, he would better take something else.

If, however, we consider the future of our pupils, at least the commercial value of mathematics is evident, not only to boys who may enter mechanical pursuits, but also to future teachers and those who may enter business houses. We believe that mathematics should be taught, not from the point of view of the specialist, but from the point of view of the child and as a tool.

It has been suggested that what is of value in any course, is the point of view, not the mass of details, which must of necessity be forgotten. The unity and value of the algebra course center in the presentation of the equation as an instrument in solving problems, while the practical value of the geometry lies in a knowledge of its theorems and general principles. Mental training must follow of necessity if our work is done as it should be, but our work is a failure if the essential content of the subject is not made the center about

<sup>1</sup> Read at the conference of the Department of Mathematics.

which all details are grouped, and if the pupil cannot clearly perceive the underlying unity and gain knowledge and power.

If we consider the application of these ideas to the teaching of algebra and geometry, some interesting points suggest themselves. One is a change in the order of topics. This is allowable, even when a definite text is used, for the right of the teacher to think for himself and plan his own course is a divine right. We believe in textbooks however. Our pupils need to learn to study independently, and the best text available should be chosen with this object. We question the success of all attempts to do away with a text.

If the pupils are to be made to feel the importance of the equation in such a way that they will never forget it, the order in most texts seems to serve the purpose but poorly. This order is something like the following: the four fundamental operations with integers, factoring, fractions, simple equations with one unknown, simple simultaneous equations, exponents, surds, quadratic equations, and so on. Occasionally some work with integral equations is given with the four fundamental operations, and fractional equations are given with the work on fractions. Problems are invariably given in connection with the different kinds of equations. If the book is to be of value later as a reference-book—and this is essential—this is a good order; but it is an objectionable order in teaching the subject, as it appears to treat the equation as only one topic among many.

The point of view may be brought out nicely by introducing work in equations at every possible opportunity. Not only, for example, may transposition be taught with addition and subtraction, but also one method of elimination in simultaneous equations. If the pupil's knowledge of numerical fractions is wisely used, fractional equations with numerical denominators and the remaining methods of elimination may be taught with multiplication. As soon as the pupil can write the square of a binomial, he may be taught the reverse process, which is usually postponed until factoring. He may then be given easy affected quadratic equations. Even simultaneous equations, one of which is of first degree and one of second degree, may be introduced quite early. Harder fractional equations may be sprinkled along with factoring and fractions. Verification of roots will utilize work in fractions and radicals.

It will be seen that everything that it is worth while for the pupil to know has a place in this scheme. As we have said, fractions and radicals are necessary in verification of equations. Square root of numbers has a place in the solution of quadratic equations with irrational roots. Such roots should not only be given in the usual form, as  $\frac{1}{2} \pm \frac{1}{2}\sqrt{3}$ , but should be obtained approximately to three or four decimal places. The square root of polynomials is not directly essential for equations, but is essential for a thorough comprehension of square root of numbers.

There are a few topics usually included in the textbooks whose utility we seriously question. Highest common divisor by division is an example. We wonder, also, if cube root and binomial theorem have a place in secondary work. It certainly is not good pedagogy to introduce the pupil to a miscellaneous collection of topics from advanced subjects just as fast as he is capable of solving elementary problems in these subjects, if the problems have no bearing on the rest of the work.

I have given my advanced algebra class a diagram similar to that given below, for the purpose of showing the relation of the various topics studied to the equation.

Problems form another interesting topic. Not only are many of the problems given in the algebras of little value in themselves, but the classification usually adopted seems to me to serve no purpose whatsoever. What inspiring or valuable idea is a pupil to get from a collection of problems on miscellaneous subjects, grouped together simply because they all give rise to quadratic equations, or to simultaneous equations? If one follows the order of the text closely, such a collection resolves itself into a set of puzzles, to the solution of which the pupil is left largely to his own resources. If the subject-matter of the problem involves mathematical relations with which he is familiar, he solves the problem. If this is not the case, he gives it up. This is of necessity so because if the order of the text is followed, no systematic attempt can be made to enable pupils to understand the relations involved in any one particular subject. Each set of problems contains a few on that subject. A few are solved today, and a few next month, and the majority of the class knows no more about these questions at the end of the year than at the beginning. In other

Kinds of Equations	Methods of Solution	Verification	Applications	Graphs
Linear				
Quadratic				
Higher				
Radical				

words, the authors of textbooks introduce problems simply as illustrations of certain kinds of equations, not with the idea that the teacher is to go systematically back of the equation to the mathematical relations involved in certain subjects; and clearly to bring out these relations and to train the pupil to translate them into algebraic language. This has not been considered the province of the algebra teacher.

Dr. Tompkins' remark, "Push your subject to its utmost, and you do all the correlating necessary," seems to me to define the legitimate limits of correlation, and to apply both to the teacher of physics and chemistry and to the teacher of algebra and geometry. If a problem involves a technical knowledge of another subject that cannot be given by a few words of explanation, that problem and the algebra necessary to solve it properly belong to that other subject, and the teacher has no right to object to a review of the necessary

mathematics. On the other hand, it seems to me that a training in certain applications of algebra is a vital part of the algebra work. Among the most important of such applications are problems involving time, rate, and distance, problems involving mensuration or arithmetical relations with which the pupil is familiar. The manipulation of formulæ from physics and arithmetic, so as to solve for the various letters involved, seems to me to come under the same head.

If, as has been suggested, the pupil is early introduced to the various kinds of equations, consideration of any one kind of problem is a comparatively easy matter. Take, for example, the questions involving time, rate, and distance. After the relations have been thoroughly discussed, the different kinds of problems can be taken up, the easiest first, without regard to the nature of the equations produced. There are cases of one body meeting another, or of one body overtaking another, and cases involving the resultant of two forces. All these cases must be thoroughly discussed before more complicated problems are given.

At this point I wish to pay my respects to the laboratory method as opposed to the oral recitation. Dr. G. Stanley Hall, in an address last year, spoke of the short circuit from the ear to the tongue as more natural than the long circuit from the eye to the hand. Are we in danger of neglecting the short circuit, and thus not only depriving the pupil of a natural and legitimate means of acquiring knowledge—that is, by the general discussion—but also of giving insufficient training in oral expression? The laboratory method is often very fruitful for a time, especially if a class is a little discouraged. It is well, then, to set the pupils at work on a set of easy problems. But the class has a right to the oral recitation with the general interchange of ideas and criticisms afforded.

Another topic of interest is the relation of the concrete to the abstract. I think that perhaps the real question, is not which of these two elements should come first, but what kind of concrete questions should come first and what kind last. Concrete problems which are taken from the pupil, and which he may reasonably be supposed to solve, properly lead up to something new or abstract; but I cannot make myself believe that it is ever wise to assign tasks that the pupil has absolutely no means of solving. Many tasks

given in this way seem to me to belong at the end as applications of the abstract.

One of the most serious problems in algebra-teaching has long been how to give algebra a meaning to a class of beginners.

There have been attempts made to solve this problem by the introduction of graphs and elementary physics experiments. Because these things give to us concrete illustrations of abstract ideas, we have assumed that they do to the child. As a matter of fact, they are as surely outside of his experience as is the mathematics, however concrete they may be in themselves. It may be a simpler matter to enlarge this experience so as to take in the things desired for illustration, than it is to enlarge it to take in the algebra. These illustrations may embody information useful and desirable in themselves, yet the fact remains that before they can be effectually used the new must be thoroughly assimilated by means of what is already in the mind, and the round-about connection established between the child's life and the illustration, and then between the illustration and the subject in hand. Even when this connection is worked out to the satisfaction of the teacher, the child fails utterly to grasp it. This may be due in part to hurried work, but more often to the fact that children are not capable of appreciating a round-about or long argument. The result to the child is a mass of disconnected, unintelligible details not dominated by any controlling idea. After a short time nothing remains.

It has been suggested that if arithmetic were used judiciously it might be made to solve the problem before us. Let the pupil verify every equation. Let him verify the various equations obtained in the solution of the given equation, so as to appreciate the difference between changing the value and changing the form. Let him pass from the concrete to the general form of the same problem, and, having solved a literal equation, use the answer as a formula to obtain the roots of various numerical equations of which this is a type. Let him make up problems to fit certain equations. Let him evaluate both the problem and the answer in cases where simplification of more or less complex expressions is desired. Let algebraic fractions be approached through arithmetical fractions. It may be that by the end of the year the general nature of algebra will have dawned

on his immature mind. At least we have established a direct, and not a round-about, connection between algebra and the child's life. Indeed, I find the puzzle instinct stronger in my pupils than any interest in the mathematical relations of physical phenomena. Perhaps by appealing to the pleasure that a healthy mind takes in its own exercise, and using what information the pupil already possesses, I can develop a broader interest in the world about.

Just here I wish to express my appreciation of the work done by Professor C. E. Comstock, of Bradley Polytechnic Institute, Peoria, Ill. It seems to me the most suggestive and practical of all that we have heard in the last two years. Many of the ideas suggested above were received from him.

The most important thing in geometry is the subject-matter, and if we are to teach geometry, that should be the thing of prime importance. This does not mean that it is necessary for the pupil to retain text-proofs longer than the few recitations that they are under discussion. The important question is: Can the pupils apply theorems and general principles in inventing proofs and solving problems? To bring out these principles, it is frequently useful to alter the order of the text, where this can be done to advantage without destroying the sequence used. In Book III, for example, one important theorem is: "If two triangles have their angles equal, their sides are proportional." A number of theorems usually given at the end of Book III are directly dependent on this one. The proofs are not long. If these are given as originals immediately after the theorem quoted, and if this work is then followed by a number of easy exercises in which it is required to obtain a proportion by means of one pair of similar triangles, the classroom gets the notion pretty well fixed.

We insist also on the training in formal reasoning. It is because this phase of the subject is entirely new that geometry is always so hard at first. At the beginning, therefore, the work should be especially planned to meet this need. Since the author of any text must of necessity determine a definite order and strictly preserve the sequence, and since this almost invariably results in putting some of the hardest proofs at the beginning, it seems to me not only legitimate, but necessary, to say to a class: "Assume for the time being that you have proved such and such a theorem, and prove this or

that other theorem;" and this because training and formal reasoning must be given at the outset.

Examine from this standpoint the introductory theorems in any of the textbooks. In Phillips & Fisher, for example, the first eleven theorems involve a large number of geometrical principles, a variety of kinds of proofs, and some of the longest arguments in the first book. Is it any wonder that the pupil becomes discouraged before he conquers them?

The desired result is obtained much more quickly and easily by some exercises like the following. After the theorem about vertical angles has been proved, easy problems can be given to illustrate algebraic methods. For example, if (in the figure of two lines with a third line intersecting each of them, the eight angles being suitably numbered),  $\angle 4 + \angle 6 = 2 \angle 5$ , why does  $\angle 6 = \angle 3$ ? why does  $\angle 7 = \angle 3$ ? and so on. The pupil can then learn the theorem that makes alternate interior angles of parallel lines equal, and, assuming that it has been proved, prove various theorems, corollaries, and exercise dependent directly upon it, and so on. It is thus possible to grade work carefully, to give much drill in theorem-making and translating, and to group together proofs of the same nature. It will not be found necessary to assume the proofs to more than two or three theorems.

I am frequently told that by skipping about in this way the pupil is given no opportunity to appreciate the sequence. I do not wish to be misunderstood. In assuming proofs the assumption is freely admitted and no interdependent proofs are allowed. But while the pupil soon comes to appreciate the relation between two theorems, the appreciation of the sequence of the whole is a thing of slow and later growth and is best brought out in reviews.

What has been said about the introduction of graphs and physics experiments into algebra applies equally well to some exercises introduced into geometry. The question is not whether a particular experiment is permissible in itself. Anything is permissible which serves a purpose toward a clearly defined and legitimate end, and is presented so as to train the power to solve problems. But the introduction of exercises the sole object of which is to assist in formation of clear images, may be questioned, if the exercise is of no value in



itself, and if that image is not made to function toward some practical end. We are not in the entertaining business, and even clear images may be an incumbrance.

All of us have long been influenced by a wrong psychology. The mind is not a collection of faculties, but a unit and as a unit must be trained. Its highest function, as far as we know, is the solution of the problems that are continually confronting us. If our training does not make for greater efficiency in this respect, it is worse than useless. We have perhaps spent too much time on details that are of interest only to the specialist, and have often failed to give the point of view that inspires, or the training in making application of knowledge that really trains. But in trying to remedy our shortcomings let us not repeat our mistakes in another form. Let us not read ourselves into the children, nor imagine that what is clear to us is clear to them, or that what is in our lives is of necessity in their lives also. Let us be sure that we have a correct estimate of values, and see that we give as directly and as efficiently as possible that which is of most value. Let us not expect too much of the children, but in true breadth of spirit train in all things that make for perfect manhood.

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#### DISCUSSION

PROFESSOR YOUNG, of the University of Chicago: May not the very real difficulties in applying mathematics in physics be remedied to a considerable extent by the simultaneous teaching of algebra, geometry, and physics throughout the high-school course, each subject not necessarily every week or every month, but at least every year? This seems to me the next great step forward to be taken in the teaching of mathematics in this country. (In Chicago a mere redistribution of the hours now given to physics and to mathematics would suffice, without altering the total number of hours given to either.) As a nation we are conservative in educational matters. In England the "Perry movement," about five years old in its present form, has worked a real revolution in the teaching of geometry. In France and Germany, algebra, geometry, and physics are taught side by side, and, as a rule, the teachers of physics there find no such marked deficiency as ours report in ability to apply the mathematics previously learned.

PROFESSOR E. H. MOORE: We are all conservative-radicals. There is perhaps a mistaken idea that we think we are emphasizing novelties. The result to be reached is that students understand not only the theory, but also that *it fits the phenomena of nature*, from which it arises by the mediation of the thinker,

and to which it has continuous application. To judge from my own experience in college work center of gravity experiments and problems would be of value in secondary work.

AN INQUIRER: Has Professor Young worked out a definite plan for the simultaneous teaching of algebra, geometry, and physics?

MR. YOUNG: I have no special plan of my own, but the method has long been in vogue in Germany and France; the official curricula are quite detailed and constitute the working plans.

AN INQUIRER: Are the foreign curricula mentioned by Professor Young accessible in English?

MR. YOUNG: I know of none but my little book on *The Teaching of Mathematics in Prussia* (Longmans).<sup>1</sup>

MISS SYKES: By teaching algebra and geometry together, alternating between them, energies are scattered too much.

MR. MOORE: Algebra, geometry, and physics should always be in the field of vision. The line of sight may be directed to some one in particular, but without losing sight of the rest.

MR. BRESLICH, of the University High School (recently of Bradley Polytechnic Institute, Peoria): The plan was tried at Bradley, but failed. Students forgot their geometry while attending to algebra, and conversely. Confusion was also caused by the fact that some students passed in one subject, but not in the other. The work was hampered by lack of a suitable text.

MISS SYKES: Comstock's *Algebra*, mimeographed, is valuable for definite concrete problems.

MR. BRESLICH: I think Comstock's book will be published this year. The mimeographed copies are sold by Professor Comstock, Peoria, for 75 cents, while they last.

MR. STOUT, of Howe School, Lima, Ind.; MR. COBB, of Lewis Institute; MR. FIELD, of the Academy of Northwestern University; MR. LENNE, of John Marshall High School, Chicago, and MR. WICKES, of the University High School, gave reports of the simultaneous teaching of algebra and geometry with, on the whole, encouraging results.

MR. YOUNG, in answer to the question, "What effect would our elective system have on this simultaneous teaching? Is there an elective system in Germany?" said: There is no elective system in Germany, but the plan is feasible

<sup>1</sup> The official curricula are: *Lehrpläne und Lehraufgaben für die höhere Schulen in Preussen* (Berlin: Cotta; pp. 76); curricula of 1901. *Plan d'études et programmes d'enseignement dans les lycées et collèges de garçons* (Paris: Delalain; pp. xl+208); curricula of 1902. The textbooks usually treat the subjects separately, leaving, as do the official instructions, the order of development of the work allotted to each year to the discretion of the teacher. Mehler's *Elemente der Mathematik* is much used in Prussia. Jules Tannery's *Notions de Mathématiques* (Paris: Delagrave, 1903; pp. x+352) is very suggestive, especially along the line of interrelation of algebra and geometry, and early use of idea of derivatives. There are good English books on German higher schools in general by Russell (Longmans) and Bolton (Appleton).

under our system. The experiment is certainly hampered by fixing definite days for algebra and others for geometry, and by giving credit for one without the other. The work should be treated and credited as a unit—a year's work in mathematics.

PROFESSOR MYERS, of the School of Education of the University of Chicago: We should perceive clearly that improvement is possible and strive to make it. However much algebra and geometry may be mixed up, we must realize that the effect on the students' mind should be unified. Trigonometry is pre-eminently a high-school subject. Personally, I introduce some surveying and mechanics in algebra. It is to be deplored that there is no literature on the subject, and that consequently each teacher is left to thresh out his material as best he may. One of the pressing needs of the day is the preparation of suitable texts.

MR. MOORE: However various our expressions, we surely are united in purpose. Let us then agree: (1) To press for consideration the merits of the concurrent teaching of algebra and geometry, as one subject, *mathematics*; (2) even with the curriculum as at present, to introduce into first-year algebra many problems having origin in observational geometry, and into geometry many problems requiring algebra in their solution or of algebraic origin (e. g., construction to scale of numerical expressions); (3) to report results in next year's conference.

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### WHAT AMOUNT OF MECHANICS IS IT DESIRABLE TO INTRODUCE INTO A FIRST-YEAR COURSE IN PHYSICS, AND IN WHAT POSITION SHOULD IT COME?†

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W. B. TOWER  
Englewood High School

The *order* in which he presents the various parts of his subject is a matter given careful attention by the thoughtful teacher of physics. The varied arrangement of our textbooks shows that this question of best order of topics has been attacked from many standpoints, and that the true solution will not be reached by examining one set of data.

The question before us takes up one phase of the larger question just indicated. In its consideration questions similar to the following present themselves: Is there danger of giving too much time to mechanics at the expense of more important topics? Is mechanics, on the other hand, of such fundamental importance that there is no

† Read at the conference of the Department of Physics.

danger of overemphasizing it? What should be its position in the course? Is there danger of discouraging students by the introduction too early in the course of those abstract and mathematical notions which are the inevitable accompaniment of mechanics?

Considering the order of subjects in physics, my own conviction is that mechanics should come first; being introduced, however, by study and discussion of the properties of matter. Hence, when mechanics proper is taken up, the pupils have some acquaintance with the laboratory, the teacher, and his mode of presenting the subject. Mechanics should come first because it contains the fundamental principles and ideas of the science, such as the laws of motion, of gravitation, and fluid pressure, and the ideas of force and reaction, and of the conservation and transformation of energy, etc. These principles and ideas of mechanics assist—nay, they are essential to—an accurate knowledge of the other subjects of physics.

Were this the only reason for placing mechanics first, it would be sufficient; but there are other reasons. Physics requires in its study the development of the habit of constantly applying the truths studied to concrete examples and illustrations, and the testing of hypothesis by experiment. For the development of this habit of study mechanics is better adapted than any other subject of physics, by reason of its wide range of topics within the every-day experience and observation of its students.

Were all of my pupils intending to enter an engineering school, I might say that there is no danger of overemphasizing mechanics. As it is, considering our mixed classes of boys and girls, with some preparing for scientific, literary, or technical courses in college and university, with others going to normal schools, and with still others whose school life ends with the high school—considering all of these, notwithstanding the importance of the subject, I know that mechanics may be overemphasized, sufficiently so, at least, to give pupils but an imperfect idea of some of the other important divisions of physics.

Further, we may dwell too long upon mechanics, in the first survey of the subject, for the best mental development of the pupil. We must first plant seed-thoughts and cultivate the budding ideas before we may have the fruitage of knowledge and power. So with the fundamental ideas of physics. Our notions of matter and energy

and their interrelations, gained first in mechanics, need to be added to and modified by a study of the phenomena of heat, sound, light, and electricity. Therefore, while the fundamental concepts of physics can, doubtless, not be overemphasized, the subject of mechanics may easily be. Instead of spending too much time upon it at one time, it would be better to review it after studying the other subjects.

Now concerning the danger of discouraging students by the introduction too early in the course of those abstract and mathematical notions which are the inevitable accompaniment of mechanics. This danger exists and must be met; perhaps best by using concrete illustrations to assist the mind as much as possible. My experience has been that pupils have a certain amount of trouble with these things, whether they take mechanics in the first or the second half of their year in physics. The pupil will always find difficulty, for example, in distinguishing force from energy. It is not to be expected that a distinction which scientific men required two centuries to establish will be easily comprehended by the pupil.

We make a mistake, it seems to me, if we attempt to make pupils grasp too rapidly the ideas and distinctions which *we* have acquired as result of growth. Ideas presented clearly, not exhaustively, and then referred to frequently afterward with specific applications, grow naturally. This natural development of knowledge is a source of inspiration to the student, not of discouragement. On the other hand, pupils are often discouraged by our presenting ideas too rapidly for them to assimilate. The great problem is to determine the proper mean between too much and too little.

Leaving this discussion, and turning to the topics presented in mechanics, I will give, at the request of the chairman, an outline of the course in mechanics given at the Englewood High School.

The general plan of the work is to have two double laboratory periods each week and two single periods for recitation, quiz or lecture. Whenever found desirable, a laboratory period is also used for quiz or discussion of experiments. Including the time spent upon the properties of matter, the work in mechanics occupies sixteen weeks—two-fifths of the year. The laboratory work in this course parallels the work in the textbook; whenever possible, running a little in advance of the recitation in order to give the pupils concrete concepts

to use in the study of the topics taken up in the text. Some twenty experiments are performed in the laboratory, including four exercises in measuring length, mass, and volume; three, in properties of matter; and thirteen, in mechanics. the subjects of the experiments in mechanics being: center of gravity, falling bodies, pendulums, composition of forces, levers, pulleys, inclined plane, Archimedes' principle, specific gravity of heavy and light solids, the barometer, siphon, and Boyle's law. The recitations follow substantially the order of topics as found in the text, Carhart and Chute's *High School Physics*.

The course in mechanics includes the following subjects: properties of solids, liquids, and gases; force, units, elements, and measurement; motion, uniform and accelerated, including Newton's laws and falling bodies; gravitation and gravity; centrifugal force; pendulums; work, energy, power, units, and measurement; machines, mechanical advantage, efficiency, and friction; liquid pressure, surface tension; Archimedes' principle, specific gravity; pressure and weight of air; Boyle's law. The study of each of these topics is accompanied by illustrations and practical applications.

While the principal emphasis is placed upon the clear understanding of the topics studied and the practical applications, there is also continued throughout the course the use of formulæ and graphic representation, in order to gain the ability to use accurately and readily these two methods in the solution of physical problems and the representation of physical principles.

The course should give the pupil some idea of what is meant by physical law and the use of formulæ in expressing the relations stated in physical laws.

This amount of mechanics, it seems to me, is desirable to introduce into a first-year course in the subject of physics, provided that the classes are similar in maturity and ability to those found in the Englewood High School.

TO WHAT EXTENT IS IT POSSIBLE TO INTRODUCE  
INTO THE HIGH-SCHOOL COURSE IN PHYSICS A  
STUDY OF THE PRACTICAL APPLICATIONS OF  
PHYSICS TO INDUSTRY

E. G., THE CONSTRUCTION AND OPERATION OF STEAM, GAS, AND TURBINE ENGINES, WATER WHEELS, HYDRAULIC PRESSES, ELEVATORS, ARTIFICIAL-ICE AND LIQUID-AIR MACHINES, TELEPHONE AND TELEGRAPH SYSTEMS, LIGHTING AND POWER PLANTS, ETC. ?

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C. H. PERRINE  
Wendell Phillips High School,

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Without discussing the advisability of introducing such study into a course in physics further than to state that the pupil of high-school age is more interested in the cause of the many mysteries about him, and the secret of machinery, than he is in learning the mathematical relation of effect to cause, I am free to admit that I believe it advisable to leave out much which we now teach, and to devote the time to the study of the industrial phase of physics. This can be done in the class or lecture-room, in the laboratory, and by trips to factories and plants.

In the textbook work the laws of falling bodies may and should be treated under the topic of accelerated motion. The very fact that this subject is treated under a separate heading tends toward confusion, as the pupil will not see that  $g$  is only a special case of  $a$ . Gravity should be considered and treated only as one of the forces of nature, and co-ordinate with the pull of a horse to a plow, the pull of an engine, the force of a friction brake, etc. The inclined plane, the pile-driver, the coasting sled, and the gravity switch furnish good material to arouse interest.

Curvilinear motion should be considered in the lecture-room, but not from a mathematical standpoint. Pupils relish knowing why grindstones and fly-wheels sometimes burst, why objects weigh less at the equator than at the poles, and why the equatorial diameter of the earth is greater than the polar diameter. But as soon as it is attempted to demonstrate, in the short time allotted to both student

and teacher, that  $f = \frac{mv^2}{r}$ , the interest of 90 per cent. of the class will die instantly.

Work and energy should be taught with a concrete example of something doing work before the class. Abstract considerations such as  $E = \frac{1}{2}mv^2$  or  $E = \frac{wv^2}{2g}$  mean little or nothing to most of the class; therefore little stress should be put upon it. Why not leave such material for the college student. He who does not go to college will never think of using it.

Simple harmonic motion is another term that is liable to bewilder instead of enlighten. The students have seen wave-motion and vibratory motion, but simple harmonic motion is too much out of their experience to be appreciated.

In light, much time can be spent in tracing rays through lenses which should be given to the study of phenomena that need reproduction and explanation. The pupil will forget and never use the mathematical formula given him; but the phenomena he has with him always.

In heat, a common fault is to require many problems on mixtures involving heat of fusion, heat of vaporization, and specific heat. These problems are rich and interesting to those who are able to grasp their full significance. To keep the student on them, however, until he can handle and appreciate their value is to rob him of much he should know. Instead of such work, why not have him calculate the amount of coal to run a boat across the lake, having given the resistance of the boat, the efficiency of the engine, and the heat equivalent of a pound of coal; or similar problems? It smacks of something useful, something taken from the real commercial life.

In electricity, the common devices and machines which one meets at every hand should be minutely studied. They should be handled, dissected, constructed, if possible. The greatest mystery of the age to most people is the dynamo.

In the laboratory it is well to have the question in each experiment so definite and concrete that it is impossible for the student to lose sight of the main point. And I find it convenient and profitable to have a list of optional experiments primarily for students who are able to do more than required work. However, in many cases I



permit the class to choose optional for regular experiments. In this way the bright student never gets far ahead of the class, and the dull one may substitute an experiment he is interested in for one he has trouble to understand. Under this head I put such experiments as the spherometer, Young's modulus of elasticity, the levers of the second and third class, gas pressure and water pressure in the city mains, the water motor, coefficient of expansion of air, heat of fusion, heat of vaporization, specific heat, the efficiency of an alcohol lamp, the horse-power of a small steam engine, the construction of a telegraph line, the construction and operation of a telephone line, the electric bell, the motor, the printing of the magnetic field, etc. This list varies each year to suit the temperament of the students.

Excursions may be made profitable, if well planned, and the class is handled in small groups. If, however, the class has nothing definite as to what is to be seen and studied, the instructor will do well to stay at home with his flock.

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## DEPARTMENT OF PUBLIC SPEAKING

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F. M. BLANCHARD

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About twenty-five teachers and principals were in attendance at the conference held by the Department of Public Speaking. Great interest was shown in the discussion of the annual contest, and the general subject "Oral Expression in the Secondary Schools."

It was the opinion of all present that in the future more care should be exercised in securing uniformity in the selections presented at the annual contest. It was agreed that the young women should all give standard poetry, and the young men, oratorical prose. It was requested that the Department of Public Speaking of the University of Chicago send to all competing schools notice of these restrictions, together with a list of authors from whose works selections might properly be taken. The Department of Public Speaking agreed to do this at an early date, in order that the best possible results might be expected from the next contest.

In considering the subject of oral expression in the schools, it came to light that some schools have regularly organized departments of public speaking; some have the work correlated with the work in English; while some have no training whatever, save possibly a little coaching given a representative just before the annual contest. All agreed that equally good results should not be expected from these different systems. It was the general desire that oral expression might be given a large place in the English departments of all the schools.

## A BRIEF FOR FRENCH IN THE HIGH SCHOOL<sup>1</sup>

ASSOCIATE PROFESSOR JENKINS  
The University of Chicago

According to current educational theory, at least one foreign language is indispensable in a high-school course, and where a modern foreign language is called for, the choice in many cases may properly fall to French. While the position of French in the secondary-school program is thus theoretically secure, the introduction or extension of French is meeting with several serious obstacles. The first of these is that abstract estimates as to the value of this or that language have very little weight in comparison with the practical consideration: Is the subject well taught? The educational world is ready to intrust greater responsibility to teachers of French whenever and wherever they prove by results that they stand for an instruction as serious and effective as any of the language subjects. Improvement in the professional training of our teachers is therefore the most important practical problem that confronts us.

A second formidable obstacle to our progress is that parents and principals, and often teachers, are not alive to the possibilities of French as a school subject, that they generally underrate its value, and that as a consequence, a majority of the schools and colleges of the Mississippi valley are stinting the outlay for salaries and the time allotment, and so are not giving French a fair chance to show what it can do.

Both for principals and for teachers the main question is: How much can teachers of French aid in the work of making high-school boys and girls more intelligent, active, and presentable members of society? What follows is an attempt to answer this fundamental question.

In the important matters of good health and good morals our responsibility is relatively small—we are rather expected to do our

<sup>1</sup> Read November 12, 1904, at the annual conference of teachers of Romance languages in colleges and schools in relations with the University of Chicago.

pupil three services: first, to give him the key to a foreign language which for various reasons occupies a distinguished position in the modern world; second, to train and develop his mental faculties; third, to increase his power to do steady and effective work. We may vary somewhat as to the degree of weight that we attach to each of these three divisions of the instruction, but it seems certain that none of them may be safely neglected.

Our pupil is first confronted with a foreign system of sounds, remarkably simple and definite, yet requiring of the learner close attention and assiduous practice. That it is a hard proposition to most young people is proved by the fact that so few really succeed. Success would be more general if our classes were limited to fifteen, and if the purely physiological problems involved were not so generally ignored. After learning the sounds, the pupil is exercised in observing, distinguishing, and remembering the forms of a language, in which the divergences from his mother-tongue are considerable.<sup>1</sup> While we may freely concede to our critics that the educational value of learning to speak another tongue is not high, yet it certainly contributes to self-confidence, to alertness and sureness of ear and memory, and to the merit of a clear enunciation.

All this concerns the study of the spoken tongue. But French is also a highly developed literary language (as we may clumsily translate the German word *Schrijtsprache*), with a rich vocabulary of general and abstract terms. Perhaps two-thirds of the English vocabulary is of Latin origin; the French vocabulary is nine-tenths Latin. Commissioner Harris recently reminded us that "the English language resorts to Latin and Greek for all those terms which express fine distinctions of thought or subtle shades of sentiment," so that "a little study of Latin enables the English thinker to use with certainty and precision the words which express the results of careful thinking."<sup>2</sup> It has escaped observation that the great majority of our Latin words have come to us from the French, as their suffixes

<sup>1</sup> Notably in the use and non-use of articles, a new and thorough-going system of gender-distinction, a different mode of negation and of interrogation, a different order of pronouns, a rather complex verbal system, and finally a wealth of idiomatic turns and expressions which have no exact equivalents in English.

<sup>2</sup> *Educational Review*, April, 1899, pp. 314, 315.

show, and that therefore it is some or all of the French connotations that we have borrowed, and not those of the more remote classic Latin. Besides, there are large numbers of Latin words in English whose cognates are in use in the modern Romance tongues, but were entirely unknown to the classic writers.<sup>1</sup> If, then, it be a question of enlarging and sifting the pupil's English vocabulary by means of language exercises which, as Lowell well described them, shall "compel us to such a choosing and testing, to such a nice discrimination . . . of shades of meaning, that we now first learn the secret of the words we have been using or misusing all our lives," it would seem that the availability of French for this purpose is at least equal to that of Latin, although this aspect of the matter has been so generally overlooked.

If we incline to the pedagogical theory which seeks "mental discipline through knowledge," we do not need to be reminded that the French nation has made important, and in some cases unique, contributions to human civilization, and that France continues to be one of the focuses of the world's intensest activities. When our boy has been brought to appreciate these facts in some of their many bearings, when the salient features of French life, past and present, have been made real and living to him, his mind has been stimulated and broadened. For life is the great educator, and the best French life, while not lacking in moral and material successes, is particularly rich in intellectual and artistic triumphs, many of which are not beyond the ken of wide-awake young people. Moreover, French civilization is unusually accessible and intelligible, and yet in most ways—being essentially Latin—widely different from our own. Few, I believe, will agree with those who think that French life is too similar to American life to be stimulating and educative. One is compelled to believe that such an opinion, wherever held, must be due to an imperfect acquaintance with French history and French character.

<sup>1</sup> Opening at random Mérimée's *Colomba*, a text much read in high schools, I find on one page seven Latin loan-words; to these the English cognates are "conversation," "quality," "notability," "society," "curiosity," "intention," "satellite." It may be a surprise to some to find that the only one of the etyma of these much-used words that is used by Cæsar (*D. B. G.*) or Virgil (*Æneid*) is *societas*, which occurs in Cæsar in the sense of "alliance," an unmodern meaning. The whole subject deserves a thorough investigation.

When therefore, as often happens, the well-known fact is brought to our notice that the essentials of French grammar, such as they appear in the secondary-school textbook, are sooner mastered than the German or Latin rudiment, this state of things may be regarded not as a drawback, but as an advantage. We congratulate the pupil that he is sooner able to read, and that, with the same effort, he may read more literature and learn more about the foreign life than his classmate may in Latin or German. It is simply a piece of good fortune that the wealth of the mine lies nearer the surface, and that the returns on the investment are quicker.

As to French institutions, our teaching, it must be admitted, is as yet fragmentary and unsystematic; we are only beginning to utilize the interest which the natural boy and girl feel in foreign life, in the "works and days" of other peoples. But while we are still waiting for the special textbooks which are to give us, in artistic form and living color, characteristic scenes from the French national life of today, this lack is not much felt in the high school, where the study of *realia* may be limited to what is suggested by the literary text.

After all is said, French literature, alive as it is with the subtle and contagious forces of personality, remains the most effective interpreter of French life. And what a literature! Unsurpassed in range and high average of excellence, it lies ready to hand, the refined product of centuries of uninterrupted tradition. Why should not this noble creation of the human mind be utilized everywhere in secondary education?

Let us see, first of all, what will be the rewards of such a study.

"The object of literature in education," said Cardinal Newman, "is to open the mind, to correct it, to refine it, to enable it to comprehend and digest its own knowledge, to give it power over its own faculties, application, flexibility, method, critical exactness, sagacity, address, and expression." The power of any great literature to awaken and train the mind could hardly be more justly estimated. But for our present purpose we must go farther and ask whether or not French literature possesses any qualities of its own—I mean qualities which it possesses to a really pre-eminent degree—which enable it to make a unique contribution to the work of education. What special services can it do the boy of fifteen or sixteen?

I venture to name three qualities for which French literature as a whole is pre-eminent—robust common-sense, wide human sympathy, and good taste; or, in other words, French literature is pre-eminent clear and sensible in thought, fraternal in spirit, and artistic in form.

French writers have the conspicuous merit of being uniformly clear, frank, and sensible in thought and expression; they do not indulge in "gushing," in clouds of words, nor in attempts to excite the feelings to vague exaltations. They seem to have taken to heart Molière's lesson: "Keep your head, and all will be well." So fundamental and pervasive is their intellectual conscience that every page of good literature assimilated, every linguistic exercise based on a classic model, is a lesson, not only in the discrimination of language forms, but also in the practice of clear and straightforward thinking. Our high-school graduate will be called upon to write—it may be newspaper paragraphs, business letters, advertisements, or what not—but no matter what he writes, this training will enable him to think and to express himself more readily and to the point.

Again, French literature is pre-eminent social. It "expresses truths of interest to everybody in a language which all understand," as M. Brunetière has said. This quality of universal acceptability has more than once carried the national literature beyond the borders of France; for us it is an important quality, for, thanks to it, even backward pupils need not fail to understand and profit. Especially significant for our purposes, however, is the penetrating and delicate analysis of social motives and relationships which this literature reveals, and which is without a parallel in other literatures, because, as Taine said, the French have a special talent for social intercourse—a special talent for usages whose purpose is to make human intercourse easier, more agreeable and profitable.

Of course, no one believes that the study of a French text will inevitably inspire consideration and tact, but rudeness is oftener the result of thoughtlessness than of intention, and there are plenty of boys of dull imagination who seem incapable of realizing unfamiliar situations, and to whom much that polite society has accepted as essential is apt to seem absurd, if not preposterous. For such, no exercise is more useful than to be set to unravel the motives of the

actors in the French *comédie de mœurs*. Let us take, for example, Professor Benton's excellent trio of modern plays.<sup>1</sup> The boy of sixteen or seventeen who has been led to the point where he appreciates all the motives of all the characters in this one volume will be more of a person than he was before, because *he will see more in life than he saw before*.

In addition to intellectual probity and the spirit of mutual toleration, French literature, as all know, has a conspicuously artistic form. It has profited by the same talents that have made the French so successful in the arts of painting, sculpture, design, and decoration. As the collective product of a society of more solidarity than our own, the language of France has been molded by generations of acute minds to all the finer uses of conversation and written expression, until we have today—to use Walter Bagehot's phrase—"a veritable treasury of dexterous felicities." Even granted that French style has no charms for these young people, it is still something to have introduced them to a literature so distinguished for good taste, and to one which may become to them, as to many others, a resource and a consolation in after-life.

To resume: If our pupil has been successfully taught for three or four years, and granted some aptitude for language studies, at the end of the period, besides a fair command of spoken French, he has gained notably in self-possession, in alertness and exactness of speech and thought, in ability to understand unfamiliar social conditions, and finally in general knowledge and appreciation of the possibilities of life. The total result will do much to commend the graduate to employers as well as to society in general.

To secure these results, and so to use the instruction meantime as to increase the boy's power of concentration, are practical problems which challenge the energies of the enthusiastic teacher. Some have thought to win respect for the study by treating French as though it were Latin. This is now seen to have been a mistake; for French in the high school has certain functions of its own, not only those which belong to a living tongue and a modern civilization of the first rank, but also some whose basis is the high development of French social life and certain excellences of French literary art.

<sup>1</sup> *Easy French Plays: La grammaire, La joie fait peur, Les doigts de fée* (Chicago, 1900).



Is the literature we are thus proposing to use morally wholesome in its influence? If we might understand the term "moral writer" in the same way as Cardinal Newman when he spoke of Shakespeare and Homer as "religious poets"—the former exhibiting "the characteristics of an unlearned and undisciplined piety," the latter "the religion of nature and conscience"—it would be easy to show that French literature, as a whole, is morally sound, if not morally earnest. But there are some who insist on much narrower definitions of "moral." In some quarters there is an ill-defined fear that young people in learning French run some risk of moral contagion, of receiving lessons in irreverence, flippancy, or indelicacy in the relations of the sexes. For high-school education the question may hardly be said to be a practical one, for, so far as I know, no texts have ever been used in French instruction anywhere which might stimulate irreverence or indelicacy. Nor is it likely that any such texts will ever be used, inasmuch as such literature is in truth not representative of the French nation.

But the whole subject of the moral influence of French literature has another, and perhaps a more important, aspect. We know that the French conceptions of moral good are easily confused with what is sensible or reasonable, or—as in the case of Goethe and Ruskin—with what is beautiful. Aside from these interpretations, Frenchmen are apt to understand goodness as sympathetic fellow-feeling. Now, is it not true, as M. Fouillée has recently asserted,<sup>1</sup> that at the present time morals are taking on more and more the sociological aspect, so that virtues formerly preached for their own sake—that is, for the benefit to the individual—are now advocated for their social and humanitarian importance? If so, it may well be a question whether in interpreting morals as reasonable and fraternal conduct, France is not, as so often in the past, pointing out the way of social progress.

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#### CONFERENCE OF THE ROMANCE DEPARTMENT

As introductory to his paper on "The Value of French in the High School," Associate Professor Jenkins expressed his belief that the indications are that teachers of French are to be called upon in

<sup>1</sup> *La France au point de vue morale* (Paris, 1900).

the future to assume greater responsibilities in the work of education. There is every reason, therefore, to urge instructors in French to meet and organize for collective study and discussion of the important problems which the educational world wishes to have solved. As an aid to this end, the Romance conference proposes the following program of topics, covering four years:

1904, "The Value of French in the High School," Associate Professor Jenkins.

1905, "The Position of French in the Curriculum: Its Relations to the English and the Latin Courses."

1906, "A Proposed Ideal Curriculum of Three Years."

1907, "The Equipment of Teachers of French: What is Essential?"

In the second paper, Miss Helena Dey, of the University High School, gave some interesting criticisms of recent French textbooks. A general discussion followed. In response to a motion, a committee was appointed by the chairman to frame resolutions embodying the results of the discussion. The committee has reported the following:

1. That the conference deplores the frequent waste of time in teaching beginners in French the common grammatical categories and terms of syntax, and urges that this knowledge ought to be a prerequisite to the study of the first foreign language.

2. That, in the event of the adoption in any school of modifications of the traditional grammatical terms, regard should be had also for the needs of the pupils beginning modern languages.

3. That the present confusion in the use of the French and English names of tenses ought to be remedied.

## BOOK REVIEWS.

*Elements of Plane Surveying.* By SAMUEL MARX BARTON. Boston: D. C. Heath & Co., 1904. Pp. viii + 255.

THOUGH the author has fallen prey to the all too prevalent custom of attempting in a single brief volume to cater to the demands of a constituency too diverse to admit of any great unity and solidarity of treatment of his subject, still he has quite well met the needs of one class. The class whose interests seem to have been consulted, in the main, is that of the strong high-school, or early college, student of mathematics who feels he would like to know for what all these years of barren formalism are supposed to prepare one, at any rate. The book will give him many interesting and informing examples of the way the principles of geometry and trigonometry are used in practical work in surveying. The engineer, however, either actual or prospective, will want fuller and less mathematical detail touching the technical points of professional practice.

That the standard topics of surveying are treated will be clear from the captions of the chapters: (1) "Instruments, Their Adjustments and Uses;" (2) "Chain Surveying;" (3) "Compass Surveying;" (4) "Computation of Areas;" (5) "Transit Surveying;" (6) "Leveling;" and (7) "Tables." The tabular matter merits a few words. The following ten short tables are in the body of the book; mean refraction; errors in azimuth; refraction correction, lat.  $40^{\circ}$ ; latitude coefficients; daily variation of the needle; declination formulæ; declination values and annual change; azimuths of polaris at elongation; local mean time of culminations and elongations of polaris; pole distance of polaris. The last 111 pages of the book contain the following useful tables: a table of squares, cubes, square roots, and cube roots; of chords; stadia tables; six-place logarithms of numbers and of trigonometric functions; the natural functions to five places; and an auxiliary table for small angles. The writer desires to protest against the insertion of six-place tables in texts on plane surveying. Five-place tables satisfy every demand of the student, whether in school or in ordinary field work, and the saving in time and labor is imperatively demanded. For all cases in which a five-place table will not suffice a seven-place is necessary. The six-place has no ground to stand on. As a matter of fact, no better proof exists that mathematical teachers are generally out of touch with real demands than that they continue to load texts with six-place tables. Let the six-place table pass, in theory as it has in practice.

The reviewer can take space here for only one suggestion of a pedagogical character, which is brought out by this text. If high schools were encouraged to substitute for their lame attempts to teach such matters as college algebra a course in such a text as this, aided, of course, by the necessary instruments, in course of a brief space we might hope to see an infusion of real life into secondary mathematics. Such subjects as this and trigonometry, both plane and solid, are high-school subjects in a pre-eminent sense. So-called "college," or "advanced," algebra is pre-eminently not a high-school subject, and the sooner certain technical colleges find this out and act accordingly, the sooner may we effect a distinct improvement in high-school mathematics.

From a mathematical student's point of view the book is a clear, simple, and educative treatment of the fundamental problems of surveying. From this same point of view we ought to have a larger number of such mathematical texts as this, and a much smaller number of the logic-tight sort for early college students.

G. W. MYERS.

THE UNIVERSITY OF CHICAGO,  
School of Education.

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*Advanced Course in Algebra.* By WEBSTER WELLS. Boston: D. C. Heath & Co. Pp. vii + 581.

TO UNDERTAKE to say anything to the mathematical public of the central West about a Wells algebra is to undertake to tell that public something of which it is already well aware. Commendation of this text which, if it does not succeed with the mathematical public, is the only one of an old and numerous series that will have failed, must perforce be stale and commonplace. Criticism of such a book opens the critic to the danger of being charged with iconoclasm. The writer herewith disclaims the possession of any desire to pose either as an educational reformer or as a public nuisance, if there be any difference between the two types. Suffice it to say that the present book is characterized by about the same proportion of merits and demerits as the rest of the series. In fact, the author tells us the present book "follows in the main the author's *College Algebra*."

This book timidly introduces the subject of graphical representation in chapter 14. Two things are suggested at this point. First, it is not the elements of analytical geometry, or graphical representation, *per se*, that is so much needed in the algebra as it is graphical algebra. Less fussiness about the matter of getting ready to represent things graphically, and more graphing equations is desired without any philosophical talk about the scheme itself. The second thing is that there is no very important reason for graphs in algebra, unless they come in time to do some good in the way of illuminating equations and algebraic expressions. The pupil is familiarized, at the very beginning of algebra, with the method of displaying on a horizontal or vertical straight line the positive and negative series of numbers toward one side and the other from a point marked zero. It is easy enough for even the first-year high-school boy, or girl, to see that, if the zero of a horizontal and of a vertical line be brought together, we have at once a scheme for keeping separate on the same drawing any two different magnitudes, by measuring one magnitude off parallel to the vertical and the other parallel to the horizontal. This is all that is either necessary or desirable at the outset, since the center of gravity of attention should be on learning the equation—not on learning graphing. With such procedure we should then have a scheme for making the solution of simultaneous equations mean something worth while to the pupil. The author evidently dissents from this view.

The most conspicuous frailty of the book consists in overexplanation. Cautions, suggestions, and explanatory remarks to the minutest detail, whenever any new element enters in any form, make work practically prohibitive of thought on the student's part. Such study will result perhaps in a perspicuous, but withal a static, frame of mind on the part of the learner. He sinks into a mere manipulator. He will come to understand what others have done and explained for him, and will add to his power

to do this; but far more important is it that the pupil should be gradually trained to be a productive thinker, a dynamic factor in the process. As an agency in producing the latter attitude toward mathematical study the text before us leaves much to be desired. May the text on algebra speedily appear which will get the thinking done by the pupil, without first doing it all for him!

G. W. MYERS.

THE UNIVERSITY OF CHICAGO,  
School of Education.

### BOOKS RECEIVED.

- Our Birds and Their Nestlings.* By MARGARET COULSON WALKER. Chicago: American Book Co. Pp. 222. \$0.60.
- A Brief German Course.* By C. F. KAYSER, PH.D., AND F. MONTERER, PH.D. Chicago: American Book Co. Pp. 363. \$1.20.
- The School Chemistry: A New Text-Book for High Schools and Academies.* By ELROY M. AVERY, PH.D., LL.D. Chicago: American Book Co. Pp. 423. \$1.20.
- Elements of Algebra: For Beginners.* By GEORGE W. HULL. Pp. 159. \$0.50.
- Elementary Grammar.* By WILLIAM H. MAXWELL, M.A., LL.D. Chicago: American Book Co. Pp. 208. \$0.40.
- Forms of English Poetry.* By CHARLES F. JOHNSON, L.H.D. Chicago: American Book Co. Pp. 368. \$1.
- Five Little Strangers.* By JULIA AUGUSTA SCHWARTZ. Chicago: American Book Co. Pp. 176. \$0.40.
- Grammar School Algebra.* By A. W. POTTER. Chicago: American Book Co. Pp. 152. \$0.50.
- Longer French Poems.* Selected and Prepared for School Use, with an Introductory Treatise on French Versification. By T. ATKINSON JENKINS, PH.D. Pp. 175.
- Grammar School Algebra.* By DAVID EUGENE SMITH, PH.D. Chicago: Ginn & Co. Pp. 154. List price, \$0.50; mailing price, \$0.55.
- Nature Study with Common Things.* By M. H. CARTER. Chicago: American Book Co. Pp. 150. \$0.60.
- Out of the Northland: Stories from the Northern Myths.* By EMILIE KIP BAKER. New York: The Macmillan Co. Pp. 165. \$0.25.
- The Heroes of Asgard.* By A. AND E. KEARY. Revised and abridged by CHARLES H. MORSS. New York: The Macmillan Co. Pp. 221. \$0.25.
- The First Book of Anatomy, Physiology and Hygiene of the Human Body.* By J. A. CULLER, PH.D. Philadelphia: J. B. Lippincott Co. Pp. 148.
- The Second Book of Anatomy, Physiology and Hygiene of the Human Body.* By J. A. CULLER, PH.D. Philadelphia: J. B. Lippincott Co. Pp. 275.
- The Third Book of Anatomy, Physiology and Hygiene of the Human Body.* By J. A. CULLER, PH.D. Philadelphia: J. B. Lippincott Co. Pp. 364.
- The Elements of English Grammar.* By W. F. WEBSTER, assisted by ALICE WOODWORTH COOLEY. Boston: Houghton, Mifflin & Co. Pp. 223.
- Education in Religion and Morals.* By GEORGE ALBERT COE. Chicago: Fleming H. Revell. Pp. 434. —.—.
- The Students' Series of Latin Classics. Latin Hymns.* By WILLIAM A. MERRILL. Boston: Benj. H. Sanborn. Pp. 86.

- New Caesar.* Books L-LV, with Vocabulary. By ALLEN AND GREENOUGH. Chicago: Ginn & Co. Pp. 162. \$1.10.
- Famous Men of Greece.* By JOHN H. HAAREN, LL.D. AND A. B. POLAND, PH.D. New York: University Publishing Co. Pp. 265. —.—.
- The Child.* By AMY ELIZA TANNER. Chicago: Rand, McNally & Co. Pp. 430.
- Educational Broth.* By FREDERICK ALLISON TUPPER. Syracuse: C. W. Bardeen. Pp. 211. \$1.50.
- Goethe's Hermann und Dorothea.* Edited with Introduction Repetitional Exercises, and Notes and Vocabulary. By PHILIP S. ALLEN. Chicago: Ginn & Co. Pp. 257. \$0.65.
- The Felmley and Shulls Arithmetic.* Book I. Chicago: Rand, McNally & Co. Pp. 115.
- Little Folks of Many Lands.* By LULU MAUDE CHANCE. Chicago: Ginn & Co. Pp. 111.
- Lodrix, the Little Lake Dweller.* By WILEY AND EDICK. New York: Appleton & Co. Pp. 86.
- Selected Poems.* [Standard English Classics.] By ELIZABETH BARRETT BROWNING. Pp. 171.
- National Educational Association. *Yearbook and List of Active Members, 1904-5*, St. Louis Meeting. Published by the Association. Secretary's Office, Winona, Minn. Pp. 263.
- Die Journalisten.* By GUSTAV FREYTAG. Edited with Introduction, Translation Exercises based on Text, Notes, and Complete Vocabulary. By LEIGH R. GREGOR, B.A., PH.D. Chicago: Ginn & Co. Pp. 231. \$0.50.
- Rebels of the New South.* By WALTER MARION RAYMOND. Chicago: Charles H. Kerr & Co. Pp. 294. \$1.
- Moral Education.* By EDWARD HOWARD GRIGGS. New York: B. W. Huelsch. Pp. 352.
- The Talisman.* By SIR WALTER SCOTT. New York: The Macmillan Co. Pp. 325. \$0.25.
- Song Roundels and Games.* By HENRY SUDER. Chicago: Board of Education. Pp. 76.
- Pedagogues and Parents.* By ELLA CALISTA WILSON. New York: Henry Holt & Co. Pp. 290.
- Die Journalisten.* By GUSTAV FREYTAG. Pp. 231. A Comedy. New York: The Macmillan Co.
- The Life and Adventures of Robinson Crusoe.* By DANIEL DEFOE. New York: The Macmillan Co. Pp. 219. \$0.25.
- Seven Lamps for the Teacher's Way.* By FRANK A. HILL. With a Biographical sketch by RAY GREENE HULING. Chicago: Ginn & Co. Pp. 34.
- Essay on Addison.* By THOMAS BABINGTON MACAULAY. Chicago: American Book Co. Pp. 184. \$0.35.
- Four American Indians.* By EDSON L. WHITNEY AND FRANCES M. PERRY. Chicago: American Book Co. Pp. 240. \$0.50.
- Romeo and Juliet.* Edited by W. J. ROLFE. Chicago: American Book Co. Pp. 297. \$0.56.

